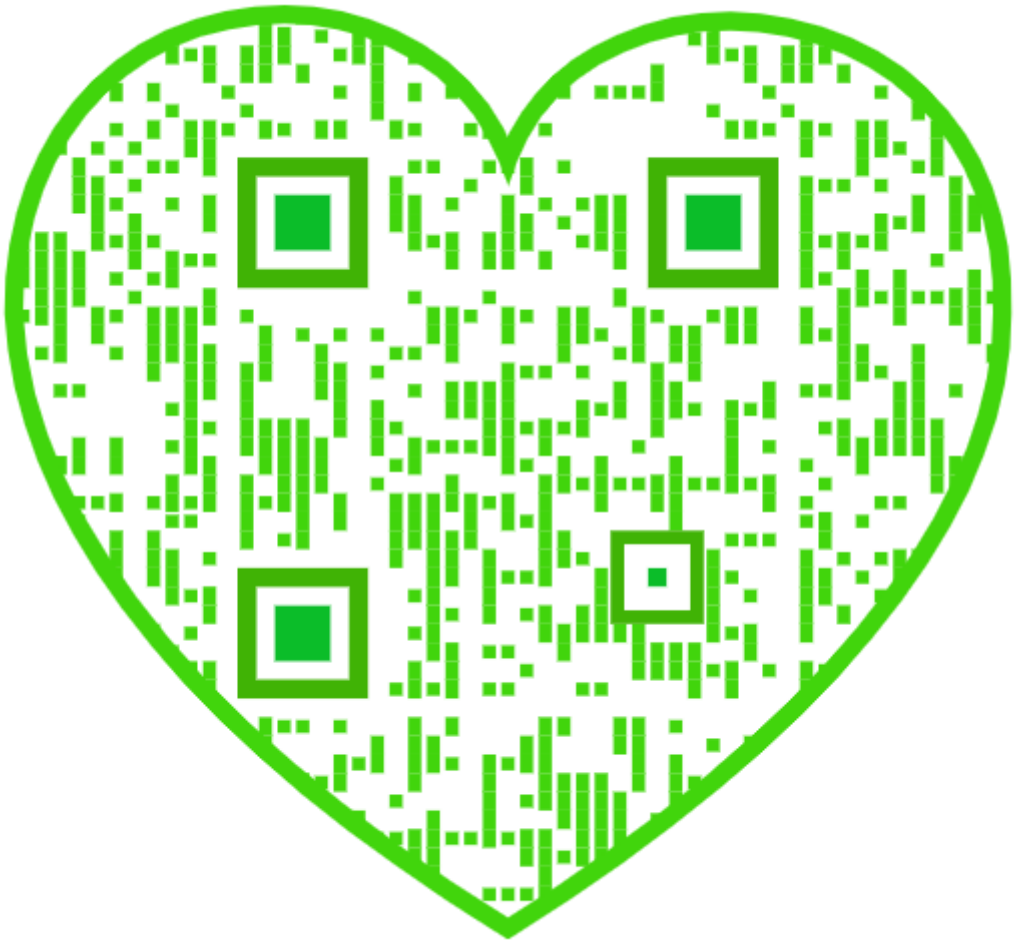

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# Dairying Exemplified.

R. Pearson

# Dairying Exemplified,

OR

The BUSINESS of

# CHEESE-MAKING:

Laid down from approved Rules, collected from the moſt experienced Dairy-Women, of ſeveral COUNTIES.

Digeſted under various Heads.

From a Series of Obſervations,

during *Thirty Years* Practice in the

*CHEESE TRADE.*

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By *J. TWAMLEY.*

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The SECOND EDITION, Corrected & Improved.

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Printed for the AUTHOR by J. SHARP, and Sold by MESSRS. RIVINGTON's *St. Pauls Church Yard*, and J. TAYLOR, No. 56 *Holborn*, LONDON. 1787.

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# PREFACE.

IF a Dedication, or Introduction to the following Work ſhould be thought neceſſary, I moſt humbly, and juſtly addreſs it to the excellent DAIRY-WOMEN, of *Great Britain;* duly ſenſible, that from them I received the firſt hints that led me to the performance, and without whoſe aſſiſtance and encouragement, joined with my own knowledge and experience, I ſhould never have offer'd it to the Public.

The real deſign of this Work, is to aſſiſt thoſe who are not fully acquainted with the moſt proper methods, neceſſary to be uſed in the management of a DAIRY; I have made it my endeavour to render every part as plain and intelligent as poſſible, and am in hopes upon a

due Obſervation of the rules laid down many will find their account in it. It is my ſincere wiſh, that it may be a means of improving the quality, as well as enlarging the quantity of CHEESE, through the Kingdom; and become extenſively uſeful to the community in general.

As the Publication of this Work has met with a very ready ſale, & been much approved of in general, and many who have carefully apply'd the rules for Dairying therein laid down, have deriv'd great advantage from it, which the Author has by many, been inform'd of; encourages him to print a ſecond Edition, and having omitted the other treatiſes upon *Orchards* and *Vegetation*, in order to bring the price more moderate, hopes that, will cauſe it to be more read by DAIRY-WOMEN, who if they pay a due attention to it, cannot help receiving benefit from the advice it contains.

# Dairying Exemplified, *&c.*

IT has been the wonder of many People, who are intereſted in the Article of Cheeſe, either as Makers or Dealers; that no Treatiſe or Book of rules, or method of making Cheeſe, hath ever been attempted; or the buſineſs of it examined, ſo as to direct thoſe who are concerned as Dairy-women, or have the chief management in Dairys, to become proficients therein.

The great number of inferior Dairys there are, in compariſon to the few, that are excellent in their kind, or even what are called good Dairys; every perſon who is much concerned in the Cheeſe Trade, is well convinced of; and 'tis evident to a nice obſerver of the different, yea, very different qualities of Cheeſe produc'd in different Dairys, or even in the ſame Dairys, when either the Dairy-maid is

changed, or the uſual method of Cheeſe-making, by the Miſtreſs or manager of each Dairy, is not ſtrictly adhered to. A Remedy for this great deficiency is looked upon as an affair of great moment, eſpecially by thoſe, whoſe lot it is to be fixed in the Cheeſe Trade in a conſiderable Dairy Country, where large quantities of Cheeſe, are annually bought; and where, was Cheeſe-making in equal repute, or the real quality of Cheeſe, equal in goodneſs to ſome neighbouring Counties, a much larger quantity would certainly be made, and what would be a great encouragement both to the makers and buyers of it, a better price would be procured for the ſame Article, and a much readier Sale, than when of an inferior quality.

Beſides which, it is very clear that many People do not, for want of a proper method, make near ſo much Cheeſe, from the ſame quantity of Milk, as others do; or as even themſelves might do, if a more proper method was purſued. Theſe conſiderations, having always been clearly apparent, have from time to time, and as oft as an opportunity

tunity of attaining any knowledge, in the buſineſs of making good Cheeſe hath offered; led the Author of the following Treatiſe, to collect, weigh, and inveſtigate every particular circumſtance leading to improve the ſaid art, or buſineſs; and hath enabled him from time to time, to aſſiſt, and help many, by his advice and directions, to rectify and amend many faults, and deficiences, in the method, they followed; and many have by ſuch directions, greatly improved their Dairys. And from conſtant experience and ſeeing the improvements, and the effects produced from every different method practiſed or explained, by ſuch as he found moſt experienced, or beſt informed, for the ſpace of Thirty Years and upwards, he never fail'd to avail himſelf; this hath conſtantly led him to ſcrutinize into the real cauſe, of every impediment, or fault, in the method of making Cheeſe, from the firſt ſtep, or Milking the Cows, to the compleating or removing the Cheeſe for Sale. And to point out a remedy to each complaint upon rational principles, as far as they appear to him, and are confirmed by the opinion of others

others, who have been in the way of making obſervations of the ſame nature, and who give every encouragement to the Author to make ſuch improvements Public, for the general good. I am well acquainted, how unthankful an office it is, to attempt to inſtruct or inform Dairy-women, how to improve their method, or point out rules, which are different from their own, or what hath always been practiſed by their Mothers, to whom they are often very partial, as having been eſteemed the beſt Dairy-women of their time, and even when they have imperceptably alter'd their method, by ſhortening the time in gathering the Cheeſe, which is a term generally given for collecting the Curd at the bottom of the Tub or Pan, after the runnet or rendleſs has done its duty, or by putting a larger quantity of runnet into the Milk to haſten the coming of the Cheeſe, which alteration, though often not obſerved by the Dairy-maid, or Miſtreſs, is of very material importance, and is what I ſhall endeavour to explain, in as conciſe a manner as poſſible. I doubt not, the ſame reflection will occur to

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the minds of ſome few on reading my Book; as hath often done upon occaſion, when I have in a Dairy, met with any particular impediment in their Cheeſe, which the Dairy-woman would fairly acknowledge ſhe could not account for, and hath tried every means ſhe could think of to rectify without ſucceſs; ſaying, what does he know of Dairying, or how ſhould a Man know any thing of Cheeſe making?

But let theſe remember, that I have had frequent opportunities, of conſulting the beſt of Dairy-women, in many Counties, who I knew from experience did know how to make good Cheeſe, and in order to have it in my power to inform ſuch as did not know how, I have taken great pains, to inform myſelf, as many now living, in both ſituations can teſtify.

The principal faults that cauſe theſe difficulties to Dairy-women are, Hove Cheeſe, Spongey, full of Eyes, Whey Springs, Jointed or Shook Cheeſe, Split Cheeſe, Looſe Cheeſe, or Cheeſe made of unſettled Curd,

Rank

Rank or ſtrong Cheeſe, Flying out or Bulging at the Edges, Dry-cracks or Huſky Coated Cheeſe, Bliſtering in the Coat, Blue Pared, or Decayed Cheeſe, Sweet or Funkey Cheeſe, Curdled or ſour Milk Cheeſe, and ſometimes ill Smelling Cheeſe, from tainted Mawſkins, from diſtemper'd Cattle, or ſome other cauſe, which by a ſtrict obſerver may be accounted for. Before a certain cure can be found out or applied, you muſt be acquainted with the nature, and cauſe of the complaint, or if by any accident, you hit upon a remedy, it may perhaps be a partial one, or ſuch as will not anſwer at all times, or in all Dairys, by reaſon the complaint is from a certain fixt cauſe, and which cauſe will at all times and in all places produce that effect; when perhaps, the remedy apply'd may only be proper in ſome particular Dairys, owing to Herbage, very rich Paſture or very Poor, to Clover ground, or ground given to Noxious Weeds, Plants, or Trees, which the Cows eat of; each of which if not known or conſidered will produce a different effect, ſome of which effects may be

be ſimilar in appearance to complaints in other Dairys produced from different cauſes, the knowledge of which will be of great uſe, to every Dairy-woman, or maker of Cheeſe to know, as the operation of the work, or management and care of the Cheeſe when made, muſt neceſſarily fall to their lot.

What relates to Paſturage; or the quality of Land for Graſs, the produce of the Land regarding Plants, Weeds, or Graſs of different kinds, falls more immediately under the eye or care of the Maſter, or Farmer of the Land; and from obſerving from time to time, the ſtate of the Dairy, the Taſte of the Cheeſe, ſo far as it may be affected by any particular Herb, Weed, or Graſs; the ſituation of the Cheeſe in the Dairy Chamber, how it is affected in different Seaſons by Heat, Cold, Damp or Dry Weather, to know what are the cauſes of many general faults, or complaints in Cheeſe, ſuch as Heaving, Splitting, Jointing, Whey Spring, Ill Formed, or Sweet Cheeſe, which often, when any of theſe happen in a Dairy, are

are produced by one general cauſe, and frequently go through the principal part of it, proceeding from the ſame neglect, or miſmanagement. Theſe difficulties or deficiencies, it is proper a Maſter ſhould be acquainted with, as it often, I may ſay, too often happens, the Miſtreſs leaves the care of the Dairy to Servants, eſpecially the puting together the Milk, preparing the Runnet and putting it into the Milk, the ſtanding of the Milk till it becomes Curd, and breaking or gathering it after it is come; which is generally done by ſome common rule or method they have been uſed to, the method uſed by a former Miſtreſs perhaps, who might be eſteem'd a good Dairy-woman, and very likely undertook the management of the Dairy herſelf; or at leaſt ſo far as the eſſential part of the work extended; paying a particular regard to the time of the operation of the Runnet, in bringing the Cheeſe, or of gathering the Curd, fixing, or ſetting it after it is come; each of which require a minute exactneſs, and the principal error, or misfortune in Cheeſe making,

is

is owing to theſe operations being too haſtily performed, not giving time enough for the different effects to take place; for if due regard is paid to making good Curd, you will very eaſily make good Cheeſe; few people in any buſineſs make good Goods of bad Materials, tho' many of the moſt ignorant, when provided with good Materials, prepared for that purpoſe, will finiſh them in a Workman-like and Maſterly manner; ſo will many a Dairy-maid, make very handſome Cheeſe and take care of it, till it comes to be very good, and ſo as to give credit to the ſeller, as well as the vender of it, that has no conſiſtent idea how the Runnet operates, or perhaps of the different ſtates of the Curd, in its various ſtages, or even when it is in a proper ſtate to begin the part of the work which uſually falls to her ſhare, of Breaking, Vatting, and preparing it for puting in the Preſs, which former part ſhould be the care of the Miſtreſs, or at leaſt of ſome Perſon who does underſtand it, to prepare the Curd for them. The buſineſs of a Dairy, is of a conſiderable importance, and

what

is in ſome Places, half, or nearly the whole income, or produce of a Farm. The difference is ſo great between a very good Dairy-woman, an inferior one, and a very bad one, as would ſurpriſe, even a judicious obſerver, and the following obſervations, which flow from what have happened in my own walks, will be apt to ſtrike conviction on the minds of many, who have never applied their thoughts to the Theory of Dairying. The general way that the art of Dairying has been carried on for Ages, has been progreſſive, or traditional, being taught by Mother to Daughter, from common and continual experience; naturally adopting from time to time, the methods that appear'd beſt from ſuch as have happened to come within their own knowledge; without ever calling in the aſſiſtance of either Philoſophy, by which they might learn the different qualities, and effect of materials they uſe, or knowledge, how to apply them in a Phyſical, or Practical manner. And although the Author of this Treatiſe, is very conſcious of the deficiency of his own knowledge; yet has great

great hopes that from the desire of making himself useful to community, with the assistance of reason and common sense, he shall be able to render some assistance, to those he wishes to serve. A kind providence hath provided for all our wants; Nature, as Nature, is compleat in all its parts; we, often in trying to improve it, distort, or throw it into confusion; our Ideas being inadequate to the attempt. Where nature points out, or leaves any open for improvement, in the use of any of the common necessarys of Life, it is the duty of individuals to take the hint, and endeavour to explain them for Public good. The present System of Dairying, being in a very imperfect state, I am in hopes, my endeavours to render service and improvement, will not be found unnecessary.

A Cow, may I think justly be stiled, the most useful of all Animals, in regard to Man; Milk is a support to our Infancy and greatly contributes both to our comfort and support through Life, not only supplying our present wants, by that salubrious aliment, but our future wants, not only at

home, but abroad; by the Cheese and Butter produced from it, it supplies us, even with many luxuries in our taste, is a great support to weakly constitutions by its Veal, as well as a great support in the Article of Provisions, afforded when alive; when Dead, is to us the grand stamina of our Food, Beef, being the most nourishing and agreeable repast; it not only supports us at home, but supplies our Fleets, our Armies, our Garrisons and Islands all over the World; its Leather, so useful for Shoes, for Implements of Husbandry, for Travelling, and for innumerable Conveniences; its Hair for our Buildings and other purposes; its Tallow for our Light at Home and Abroad; its Horns and Hoofs, and even its very Bones for our Implements, and various Materials of Trade. Were all its excellencies enumerated; they would be very extensive.

Milk, must be allowed one of its most useful productions; it is given for our use in a pure, wholesome, and nutritive state; capable of improvements, or alterations, of its nature, according to our different wants.

In

In the Article of Cheeſe, and Butter, a great deal depends on the Art, Judgment, Care and Diligence of the Performer, and the good or bad qualities of each, chiefly depend on the ſkill and induſtry of the Dairy-woman. On a judicious obſervation you will find, that Milk is generally found even at different Seaſons, to be of a regular and equal ſtamina, or quality, and in the ſame manner affected by different fluxings; by Salts, Liquids, Spirits, &c. at all times; the buſineſs of Cheeſe making, is a regular and conſtant proceeding, practiſed perpetually, every Day, time immemorial; and it ſeems ſtrange, that when the ingredients you employ are ſo few, and their nature alſo ſo exceeding regular, and certain, that there can be much difficulty, in producing the Article of Cheeſe pure, and compleat; but daily experience convinces us, that there is an amazing difference in the goodneſs of Cheeſe, inſomuch that you can ſcarce find two Dairys that are exactly, or even very much alike; it does not occur to the knowledge of every one what that difference is, but to a Perſon who deals largely in it, and makes obſervations

upon it, muſt plainly appear; and though ſo few have ever attempted to ſcrutinize the nature of Cheeſe, or particularly of Cheeſe making, in a manner that yields conviction to its improvements; yet there is no reaſon, why that uſeful branch of knowledge cannot, or may not, be clearly explained.

The buſineſs has been in the hands of the Women hitherto, except in *Cheſhire*, *Wilts*, ſome part of *Glouceſterſhire*, &c. where a large quantity of Cheeſe is made, a Man is employ'd as an aſſiſtant, the weight of a large *Cheſhire* Cheeſe, being too great to be wrought by a Woman, and turning, rubbing, waſhing, and cleaning, is more than one Man can eaſily perform; 'tis common in large Dairys, to meet with Cheeſes, Eighty, one Hundred, one Hundred and Twenty, or even one Hundred and Forty pounds a Cheeſe, which requires conſiderable ſtrength to manage. In ſome part of *North-Wiltſhire*, I am informed there are Dairys that make Twenty-five Tons in a Year; and ſome few more than that. A Gentle-

Gentleman told me, that being lately at *Bath*, he was informed of a Perſon within leſs then Twenty Miles, who Milk'd 200 Cows: Which led his curioſity to take a ride to ſee it, being a conſiderable Factor, who had frequent opportunity of buying Dairys of Four, Five, or Six Tons each; but had never met with any Dairy of that extent. On hearing the recital of it, led me to the ſame thought as would naturally ſtrike him, viz. what ſort of a Houſe or Premiſes the Perſon muſt have to cure, ſpread or diſpoſe of ſuch a quantity of Cheeſe, to get it ready for Sale? When he came to the Place, he found the report was true, but then he milked theſe 200 Cows at three different Houſes, in number proportionable to the convenience or ſituation of the Place. We often hear talk of *Cheſhire* Dairys of 100 Cows each, which the largeneſs of the Cheeſe in a great meaſure accounts for. But what are called large Dairys in *Warwickſhire*, *Leiceſterſhire*, *Staffordſhire*, or *Derbyſhire*, is from 20 to 40 Cows each; in theſe parts, from general obſervations I have made, each Dairy may produce an-

nually on an average three Hundred Weight of Cheefe from each Cow, taking the Dairys in general. I am inclined to think more Dairys produce lefs than that quantity, than there are that produce more; but this is obfervable, much the greater number of Dairys, are on Tillable, or Arable Farms, where new Grafs is introduced, which is always allowed to make lefs Cheefe than good old Turf; and the proportion of up-land Farms, is much greater than of low-land. I have weighed many times Four Hundred from a Cow, and fome few Dairys which have produced Five Hundred from each Cow; but then in fcrutinizing into the affair, I find it has been attended with particular circumftances, fuch as being fituate, in an excellent Grafs Country, where Meadows of dry Old Turf have been the Paflure, where clear ftreams of running Water have gone through the Meadows, affording always good Beverage for the Cows, as well as a cool retreat for them in Hot Weather; by which means their Milk was kept in a temperate ftate, while Cows on up-lands, perhaps fcorched with heat, and not having the nourifhing

ftream

ſtream to go to, or ſhade to protect them from the Sun, cauſe their gadding, or running about to ſuch a degree, as prevented the increaſe of their Milk, in any proportion to what the running ſtream produced; and throw'd the Cows into ſuch a heat and diſorder, that their Milk would not yield near the quantity of Curd, and cauſed many difficulties in making the Cheeſe, which the cooler Dairys were not expoſed to, (eſpecially, when under the hand of an unſkilful Dairy-woman, ) likewiſe, in theſe prolific Dairys, the owner made a point of never keeping a Cow that was too old Milcht, or Milk'd too long from the time of Calving, or when any Cow went off her Milk either by any accident, or otherwiſe; then the Dairy-man always replaced her with a new Milcht one, either drying the old Milcht one for feeding, or diſpoſing of her. That ſo the Dairy by that means was kept in full vigour through the Graſs Seaſon. The number of theſe Dairys is ſo very few and rare, they can only at moſt ſhow the World what may be done. I have been told by a *Wiltſhire* Factor, that the Land in their

principal Dairy Country, is ſo Rich and Good that it is not very uncommon there for prime Dairys to yield five Hundred of Cheeſe from a Cow; but then there is alſo every Advantage in their Favour; ſuch as (I believe no body who judgeth from the goodneſs of their Cheeſe, but muſt allow) the beſt of Dairy-women, who have been regularly bred to it from their Childhood, it generally being almoſt the ſole employ of the Farm, and thoſe Dairy-women led on by the greateſt and moſt powerful emulation, of ſelling for the higheſt Price. Their Cheeſe being generally ſold, retail, at a penny, and often two-pence per Pound, more than good Cheeſe in common. Their Cheeſe, that is made in the prime of the Seaſon, generally known in the country by the name of *Marlborough* Cheeſe, being much brought to Fairs by *Marlborough* Factors, or People reſiding not far from thence. Or in *London*, by the name of *North-Wiltſhire* Cheeſe, which always bears the greateſt Price of any Dairys, except thoſe of *Glouceſterſhire*; which, even the fineſt of *Barclay Hundred*, do ſcarce come up to: And I believe by many

many judicious People, ſome of the *Wiltſhire* Dairys are even allowed to excel. Likewiſe, in many very principal Dairys, they have this great Advantage; where Gentlemen in ſome places, occupying a large tract of Ground, or Lordſhip, either themſelves, Stewards, Bayliff, or ſome other Perſon for them, Stock the whole or chief Part with Milking Cows, which they are very particular to get to come in, or calve, by the Time Graſs is in Vigour. Then theſe Dairy People agree with them for the Milk of ſuch a number of Cows, as they can manage at a given Price per Week. The Gentleman, Bailiff, *&c.* engaging, that if any Cow fails in her Milk before a given Time, that he will take her away and replace her with a new Milcht one, by which means their Dairys are always in full Power all Summer; and then they engage for the Winter Dairy, at a Price proportioned to the ſtate of the Cows, either new, or old Milcht, by which means they are certainly enabled to make a larger quantity of Cheeſe than any common Dairy, or Land of inferior kind without theſe Advantages. And in many

ny Dairys they make Cheeſe all the Year, as the quantity of Winter Cheeſe, and Fodder Cheeſe, ſent to *London* Markets clearly ſhews.—Much depends on the ſituation of Dairy-ground, being nearer, or farther from the Houſe, where the Cheeſe is made; as Cows being driven any conſiderable diſtance to be Milked, cauſeth the Milk to Heat in their Udders in Summer-time; Milking them in the Field and carrying the Milk on Horſe-back in Churns, or Barrels to much Diſtance, I take to be ſtill worſe, as that perpetually diſturbs the Milk, inclining it to the nature of Churning Cream for Butter, and the operation performed upon it, is quite of a different nature, as it is for a different purpoſe or deſign, and if Milk is put in a violent Motion by carrying, it makes it in ſome degree partake of the nature of Churning, inſomuch, that you often obſerve round the Bung, Plug, or Stopple of the Churn, a Froth or Scum, work out by force of Air, or Motion in carrying, that very nearly partakes of the nature of Butter, which plainly ſhews that the Body of Milk, cannot be in a proper State to make Cheeſe with

with, as Butter is produced by violent Motion, and the making of Cheeſe from a ſtate of Reſt, being directly oppoſite. I take it that oftentimes in very Hot Weather, the Milk in a Cow's Udder, much agitated by driving, or running about, is in a ſtate not very far different from that carried in a Churn, which frequently makes the great difficulty in what is called bringing the Cheeſe or fixing the Curd in the Tub, or Pan; I have often heard Dairy-women ſay that tis ſometimes very difficult to make it come at all, and inſtead of one Hour, (the Time very commonly given by Dairy-women, in bringing the Cheeſe,) that it will frequently not come in Three, Four, or Five Hours; and then in ſuch an imperfect ſtate, as to be ſcarce capable of being confined either in the Cheeſe-Vat or Preſs, and when releaſed from the Preſs, will heave, or puff up, by Splitting or Jointing, according as the nature or ſtate of the Curd happens to be. Whenever People find their Cows in this ſituation which in Hot Summer Evenings muſt often happen, eſpecially, where Water is ſcarce, or in Grounds where there is very little

Shade

Shade; then it is, that making uſe of a little cold Spring Water before earning, or rendling, is uſeful; as that will make the Runnet take effect & the Milk co-agulate much ſooner. It often happens, in ſome Dairys, that the Work is quite at a ſtand, the Dairy-woman not knowing how to haſten the co-agulum, or coming of the Cheeſe, thinks of putting more Runnet in, to forward it; but the nature of Runnet being ſuch, as will diſolve the Curd, in part co-agulated, if more is put in; diſturbs the whole, and prevents its becoming Curd at all, or, in a very imperfect manner, remaining in the Whey, in an undigeſted ſtate that will neither turn to Curd or Cream, and a principal part of the richeſt of the Milk is then caſt away with the Whey. Cold Water, with a little Salt, (as hereafter recommended) will in a great meaſure prevent this difficulty, One great Point, or Thing to be obſerved, in firſt ſetting off, or rendling the Milk, is carefully to obſerve the ſtate of the Milk, as to Heat or Cold; the grand medium, or ſtate it ſhould be in when you put the Runnet into it, is what may be properly underſtood, Milk-warm;

if

if you find it to be warmer than that, it is recommended, to put ſome freſh Spring Water into it, in ſuch quantity, as will reduce it to the Milk-warm ſtate; a Quart, Two, Three, Four or more according to the quantity of Milk to be ſo cooled; many People may think Water will hurt the Milk or impoveriſh the Cheeſe; experience ſhews it will not, but is a means of the Runnet more immediately ſtriking or operating with the Milk. I would recommend the uſe of a Thermometer, to ſhew the degree of Heat Milk bears. I doubt not one may be conſtructed on a very eaſy Plan, that will coſt a very little Money, and it will be very well worth while to be at a ſmall Charge, to regulate a fault, of putting Milk together too Hot, which is of more ill conſequence than People are aware of. The ſame uſe holds good in putting Milk together for Butter; it is obſerved, that Milk being ſet up too Hot, will not throw up Cream near ſo well, as when in a temperate ſtate, and cauſes it ſooner to turn ſour.*

* By the Term Milk-warm, is not here to be underſtood, the Warmth that it has on coming from the Cow, as that varies according to the Heat of the Body of the Cow, at the Time of Milking, but a Warmth, a few degrees removed from Coolneſs; a degree of Warmth, in general well underſtood.

As ſoon as the Milk is reduced to a proper warmth, and before you put the Runnet to it, it is an exceeding good way to put a handful or two of Salt into the Milk, or three or four handfuls if your quantity is large ( I recommend about two handfuls to ten or twelve Cow's Milk ; ) this will alſo cauſe the Runnet to Work quick, and giving a Saltneſs to the whole, will be a means of preventing Sweet, or Funkey Cheeſe, as it will make the Cheeſe all Salt alike, be a means to prevent Slip Curd, or Slippery Curd, make the Curd ſink in the Tub more readily, and equally.* If your Milk is too Cold, let ſome Milk be warmed and put into it, to bring it to the ſtate of Milk-Warm, obſerving not to warm a ſmall quantity to make it boil, as boiling alters the nature of Milk in ſome degree ; ſcalding Heat is thought to ſet the Curd, making it Tough, that it is judged beſt, to warm a tolerable good quantity of Milk pretty warm, that it may give warmth to the whole in a ſufficient de-

* Your Cheeſe will afterwards want a leſs quantity of Salt, than if none had been put in the Milk ; enough to ſettle it, and make it firm in the Preſs, will be ſufficient.

degree. Some-times you will find in Cold Weather, your Milk in the time of earning, get Chill; I have known in ſuch a caſe, a Perſon take a Tea Kettle of Hot Water and put into it, with ſucceſs; let it be when the Curd is nearly, or pretty well come, as then the Hot Water will give a Toughneſs to the Curd, to relieve it from the ſlippery nature it had acquired by being Chill, and that Chilneſs continuing to encreaſe, it is with difficulty you can bring your Cheeſe into a regular or fixed ſtate. It is a very common way with many Dairy-women to allow the Milk to ſtand an Hour, in earning, or after the Runnet is put in, before it is gather'd, or ſunk; many I fear content themſelves with thinking it ſufficiently come in leſs time, *But here* lies the greateſt miſchief in Cheeſe-making; the Milk is very often diſturbed before its proper time, and ſometimes when the whole is in a ſtate of Slip Curd, or Slippery Curd, which is a ſtate all Curd is in, before it becomes ſolid Curd, or Curd, fit to make Cheeſe with. You are always to obſerve that the ſtate in which it is when you firſt ſtir or diſturb it, in that ſtate the Curd will re-

remain; it never improves as Curd, or becomes better Curd after it is disturbed or removed from its state of rest.

You will generally observe, that when you sink the Curd in the Tub, even when it is in a tolerable good state, as many imagine, there will bits of Slip Curd swim about in the Whey and not sink with the rest, till the Whey is laden from it: That slip Curd will not adhere to, or join with the solid Curd, and though ever so well broke or separated, yet in whatever state it is, when the Cheese is made, it all dissolves, or melts; if a bit as big as a Nut happens together, it dissolves into a Whey Spring, runs out, and leaves a hole in the Cheese, which always decays in that place; if a bit as big as a Pin's-head happens, it dissolves, and leaves an Eye in its place, and that is the cause of Eyes in Cheese; if you cut the Cheese when young, you will find, that there is a Moisture, or Wet, in every Place where the Eye is after it is dried up, which Wet or Moisture is called Tears. *

When

* This term, Tears, plainly indicates, that it has been usually understood in this light, being the Tears of the Eye.

When a large quantity of ſlip Curd is in a Cheeſe, tis a long Time before it becomes hard, appearing always looſe within; which, when the Cheeſe is dry, on cutting, it appears like a Honey-comb.

The thing that more Dairy-women err in, than any other, is gathering or ſinking the Cheeſe too ſoon. The rendling of Cheeſe, cauſeth a very great Fermentation; there muſt be time given for the fixt Air in Cheeſe, or Curd, ſet to work by the Runnet, to diſſipate, expand, or fly off. Runnet is a thing ſo powerful in its effect, as to have no ſubſtitute yet found that can be uſed in its place; all Fermentations remove or ſeparate the fixed Air, from the different Bodies they are connected with.

The effect of Runnet on Milk is very great, and in order to thoroughly fix the Curd, it muſt have ſufficient Time to work, concrete, or congeal the Curd into a ſolid Maſs by extirpating the Air from it; if you remove or diſturb the Milk before its full Time, yet the Runnet having begun its

operation, though you do not give it Time to work, by reaſon of hurrying it forwards, yet when it is again at reſt, ſuch Air as hath not been ſeparated, by breaking, ſqueezing or preſſing, will extend itſelf, and the Air will find a vent, or expand itſelf into a greater compaſs than it was before confined in; and whether it is in the Preſs, or after it comes out of the Preſs, will find a way to diſcharge itſelf; many times to that degree, when in the Preſs, as to even burſt the Cheeſe-cloth it is wrapt in, if it is ſo confined that it cannot eſcape by it. If it does not get diſcharged otherways, then, as ſoon as the Preſs is let up, it will ſhatter the Cheeſe within to a ſurprizing degree, and immediately cauſe the Cheeſe to heave, or puff up, even in that ſtate, which ſo ſeparates the Curd in the Cheeſe, as it ſeldom ſettles again, unleſs taken quite in Time, or before the Curd is connected in the Preſs. A good way to prevent this diſorder, of what is called Cheeſe heaving in the Preſs, from taking a bad effect, which complaint generally happens when the Milk is put together too hot, and the Whey that comes from it, is left white

white ( which it ought never to be, for then you may be ſure all is not right); when the Cheeſe has firſt been in the Preſs an Hour or more, let the Preſs up and if you find the Cheeſe ſwell, or bliſter, take a large Needle, or fine Skewer, of Wood or Iron, and pierce it in many places to let the Air out; a Pin is not ſo well, as Braſs taints the Cheeſe, and it will appear of a tainted braſſy colour ever after: If you find when the Cheeſe comes again out of the Preſs, that it ſtill ſwells, or bliſters, apply the Needle again, and it may perhaps ſettle again ſo as to make a uſeful Cheeſe; it will never be a good one, but will remain in the ſtate called looſe Cheeſe or ſhook Cheeſe. Thus you may diſcern ſomewhat of the nature of ſlip Curd; every Dairywoman ſhould take care to become as well informed of the different properties, its nature, cauſe of its Formation, and manner of operating as poſſible, in order thereby to avoid the many difficulties proceeding from it, which are more numerous than all others, in the whole ſyſtem of Cheeſe-making put together, and have been by them, the leaſt conſidered and examined. In order to avoid

many dfficulties, and render you complete Miſtreſs of the firſt part of the work, which is a very material Criſis, take care to be well informed of the nature of Maw-ſkin or Runnet-ſkin; it is very proper every Dairy-woman ſhould know how to prepare them for uſe, which is very eaſily acquired; to know in what manner or to what degree it ſhould be ſalted, and how, properly dried, and take particular care that you have the Maw freſh, not in a tainted or putrid ſtate, you may happen to have ſuch a misfortune as to have it damaged either by neglect, as to Time of preparing it, great heat of Weather, which ſometimes hurts our beſt and freſheſt Meat in a ſurprizing degree, notwithſtanding every care or caution taken to prevent it, or by the Skin having any way taken Wet, or being Fly-blown; to many of which miſhaps the moſt careful Perſon, is ſometimes expoſed; any of which quite alter the nature of it; being of a more particular conſtruction than any other thing, which muſt appear plain, when 'tis conſidered, that you cannot ſubſtitute or apply any one Thing, in the Article of making Cheeſe to a proper effect

effect, or that will anſwer your purpoſe of extracting Curd from Milk in order to make Cheeſe with, but Maw-ſkin; and you will find that when the Skin is damaged or tainted, it looſes its fermenting quality conſiderably; that it will either not take effect at all, or in a very partial and ſlow degree, and you will often find Cheeſe made from tainted Maw-ſkin appear of a putrid, unſettled, ill-taſted, diſcoloured nature, being affected in a different manner, according to the degree of Putrifaction the Maw-ſkin has received. Sometimes I have perceived the Cheeſe of a duſky black colour, not fixt in its Texture, or become ſolid and cloſe; ſometimes, in Taſte reſembling the flavour of tainted Beef or Mutton, when it comes to your Table; ſometimes it has the ſmell of rotten or addled Eggs, ſometimes of the moſt inſipid or taſteleſs nature, which on enquiring into the cauſe, could never be explained to me by the Maker. Sometimes an ingenious, well-diſpoſed Perſon, who wiſhed for Improvement, or to become acquainted with the nature or conſequence of ſuch complaint, would hint to me, her

fear was, the Maw-ſkin was damaged; tho' I have had ſome, who inſtead of being open to conviction, or that would pay any regard either to my Opinion or Advice, would tell me that could not be cauſe, for they always prepared their own Maw ſkins, and no one could be more careful to cure them properly, which was the reaſon they always avoided buying Skins as much as poſſible, for fear of that misfortune. All this care and precaution I doubt not was juſt, as from the great care many People take of their Dairy in every other reſpect, would be particularly cautious about their Maw-ſkins; but let themſelves judge, whether ſome of the afore recited cauſes, might not happen to their beſt endeavours. When I have come to a place where the Dairy-woman has informed me ſhe has been deceived in her Maw-ſkins, being then I thought on ſure ground, or certainty of the cauſe, I have been very careful to become acquainted with the real nature of the ill effects produced in conſequence thereof, and have always found ſome of the evils before-mentioned, and could often judge from the ſtate I found the

the Cheeſe in, in what manner, or to what degree it was affected thereby, and even ſo as often to convince the Maker of it, that my Opinion was right. If at any Time this misfortune is apparent to you, that ſome neglect, or miſhap has taken place in curing your Maw-ſkins, you will eaſily gueſs from which of the above cauſes they ſpring; and perhaps in a courſe of Time, you may become well convinced, that every one of theſe miſchances do ſometimes happen, and as you muſt certainly be a better, or more competent judge of the real nature of the complaints, (than any other Perſon can be from common obſervation,) you will moſt likely, find other cauſes of damage, or misfortune that happens in the proceſs, more than I have enumerated; and if any material one, it would be exceeding uſeful to have it made Public, for the benefit of Society, or to warn thoſe of the damage, whoſe Buſineſs it is to ſupply the Market with Skins for Sale. When you perceive any of your Skins have miſcarried, that they are either tainted, or otherways damaged, take particular notice how they appear; in

what reſpect they differ from perfect Skins, knowing, that the like cauſes produce ſimilar effects, and then if you are obliged to buy Skins, you will be enabled to avoid buying ſuch as have the faults you are acquainted with. I have often been led, when in a Shop where Maw-ſkins were on Sale, to examine them ſomewhat minutely, and could perceive in ſome of them much difference; I have ſeen in the ſame Skin ſometimes, the appearance of very different qualities; I have obſerved diſ-coloured Spots on holding it up to the Light; I have ſeen one part of a Skin of a well-coloured ſound nature, another part that had ſomewhat the look of rough Parchment, or hard Whit-leather; on ſmelling, it has not appeared of the ſame nature, or reliſh, with the reſt; I have alſo obſerved Skins that have appeared quite tainted, and even in a decaying ſtate, and have ſeen Rendleſs after being made, appear of a duſky blackiſh colour. A Dairy-woman ſhould be acquainted with theſe complaints, in order to avoid the difficulty that inevitably accrues for want of that knowledge, and ſhould frequently taſte the Run-

net

net when made, that ſhe may find out in Time if there is any thing diſagreeable attends it; for there is no making good Cheeſe with bad Runnet.

The Maw-ſkin, or bag of the Abomaſus, is the Maw or Stomach of Calves, that have fed on nothing but Milk, and are killed before the digeſtion is perfected, it contains an Acid Juice called Runnet, Rennet, or Earning, with which Milk is co-agulated, or rendered into Curd for making Cheeſe; in the Maw the Chyle is formed, that cauſes this co-agulum; but it greatly looſes this effect, when Calves have fed on Vegetable Food; the Maw of Houſe-Lamb, I am informed will anſwer the ſame purpoſe, but not of Graſs Lamb. I have heard of a perſon who Salted the Curd, or Crudity that was found in the Maw at the Time the Calf was killed, prepared as the Maw-ſkin is, with good effect, only uſed in a larger quantity. This may eaſily be tried by way of experiment; I never heard of but one Perſon who uſed it, and ſhe is now dead; that prevented my enquiry about it. Since the

the above was publiſh'd I am informed, that in the laſt Age, the principal part of the Cheeſe was made from the Curd, of the Maw prepared with Salt, till it was found the Skin was of a more clean and wholſome nature. It is obſervable as an old Maxim, that although Runnet readily co-agulates Milk, yet if put in when already co-agulated, it diſſolves it.

There are many ways of making, or preparing Maw-ſkins; the beſt and moſt approved I ever met with is, as ſoon as your Maw is got cold, when taken from the Calf ( for tis known that ſalting Meat hot, in ſultry Weather, will make it taint, ) let it be a little ſwilled in Water; ſome People ſay tis better not to be clean'd at all, and the effect will be greater, it coming nearer to real nature, and the reaſon given, is this, 'tis the inſide of the Maw that has the effect in Runnet, and the chyle proceeding from it, the outſide being little otherwiſe than any other Entrail. Rub the Maw well with Salt, then fill it, and afterwards cover it with Salt; ſome cut them open and ſpread them

them in Salt, one over another in layers, and let them continue in the Brine they produce, ſometimes ſtirring, or turning them, for four, ſix, or nine Months, as they can ſpare them, then open them to dry, being ſtretched out with ſticks or ſplints, that they may dry regularly; when they are dry they may be uſed; though, 'tis reckon'd beſt to be a Year Old before uſed, keeping them one Year under another. Do not let them in drying, be too near a Fire; if heated too much, renders them liable to reeze, ( as Bacon will, when melted by heat, ) and hurts their quality, giving them a rancid taſte; many People think, the Brine they are prepared in, very uſeful in making your Runnet, putting it amongſt it as other Brine, with ſmaller proportion of Runnet. People differ in their way of preparing Runnet or Rendleſs. Many will make it with Whey; ſome will put in with the Whey, the Brine drippings that come from the Cheeſe when in the Preſs. Both theſe I quite diſapprove; Whey, having already undergone purgation, fermentation, or ſeparation of the Curd from Milk, is more likely to become viſcid

viſcid, or gummy, acrid, or ſharp, or liable to putrifaction than a more pure element. Brine drippings are of a groſs foul nature, and may be deem'd, ( if the expreſſion may be allowed ) even the very excrements of Cheeeſe-making, and what ought never to be put in, in order to bring the Cheeſe, cauſing a rank and foul ſmell as well as taſte, I take it to be the worſt of all diſagreeables.

The way moſt approved by good Dairy-women, or ſuch as have fallen within my knowledge is this ; take pure Spring Water, in quantity proportion'd to the Runnet you intend to make ; it is thought beſt by ſome, about two Skins to a Gallon of Water; boil the Water, which makes it ſofter or more pure, make it with Salt into Brine that will ſwim an Egg, then let it ſtand till the heat is gone off, to about the heat of Blood warm, then put your Maw-ſkin in, either cut in pieces or whole ; the former I ſhould imagine beſt or moſt convenient; letting it ſteep for twenty-four Hours, or two Meals, ( ſo called in Dairying ) and it is fit for uſe, putting ſuch a quantity into your Milk

Milk as you judge neceſſary, for rending your quantity of Milk into Curd; obſerving that too much Runnet makes the Cheeſe ſtrong and liable to heave, and is what many People call, taſtes of the Bull, or Bull Cheeſe (eſpecially when Brine drippings are put in.) Too little Runnet makes it very mild, and muſt have more time to ſtand, before it is broke, or ſunk: The judgment required, in the quantity of Runnet, to be uſed muſt be regulated by your own prudence, increaſing or leſſening it as you find it neceſſary; 'tis often reckon'd, about a Tea-cup full, to ten Cows Milk. If you make a quantity of Runnet together to keep for uſe, let the ſame method be uſed, increaſing the quantity of each material to what you want, putting it in jars or bottles, till you want it.

I have frequently heard Dairy-women mention putting in roſe leaves and ſpices of different kind into the Rennet at the Time of preparing it, in order to give it a reliſh, and make the Cheeſe fine flavor'd.

*Mr. Hazard*, in his Eſſay to the *Bath* Society

Society gives a receipt for making Rennet after this manner; when the Maw-ſkin is well prepared and fit for the purpoſe, three pints or two quarts of ſoft Water ( clean and ſweet ) ſhould be mix'd with Salt, wherein ſhould be put ſweet briar, roſe leaves and flowers, cinamon, mace, cloves, and in ſhort almoſt every ſort of ſpice and aromatic that can be procured, and if theſe are put into two quarts of Water they muſt boil gently till the liquor is reduced to three pints, and care ſhould be taken that this liquor is not ſmoaked; it ſhould be ſtrained clear from the ſpices &c. and when found to be not warmer than Milk from the Cow, it ſhould be poured upon the Vell or Maw, a lemon may then be ſliced into it, when it may remain, a day or two, after which, it ſhould be ſtrain'd again and put in a bottle, where if well corked, it will keep good for twelve months or more, it will ſmell like a perfume, and a ſmall quantity of it will turn the Milk and give the Cheeſe a pleaſing flavour — he farther adds — after this, if the Vell or Maw, be ſalted and dried for a week or two near the Fire, it will do for the purpoſe again almoſt as well as before.

A

A very material circumſtance to be attended to in Cheeſe-making, is the time allow'd for the Cheeſe coming, or from the time allow'd for the Runnet to take effect, or the time when the Milk is at reſt, called earning time.* Which ſhould on no account be leſs than an hour and half; all that is ſtirred, gather'd, or ſunk, in leſs time is liable to danger. It may happen, and often does, that it will come ſooner, eſpecially when the method I have recommended of putting Salt in the Milk is uſed, and where care is taken to have the Milk of a proper warmth, as in theſe caſes the Curd co-agulates or collects ſooner on that account; I believe it will be found that the additional time given will never be of any bad conſequence, as the Curd then gets firm, and on ſinking, becomes more ſolid, and is eaſier made into Cheeſe, in leſs time, and with much leſs trouble, than when ſtirred or broke ſooner. What is called ſunk Cheeſe is always allowed to be the fatteſt; when Curd is fully ſet, or fixed of a ſolid nature, by having time enough, it will incline to ſink to

* Synonimous Terms.

to the bottom of the Tub, by the aſſiſtance of the Hand to gently Preſs it down, gather, or collect it, and will ſoon become of a ſolid nature; moſt People break the Curd, by ſtirring it round ſeveral times with the Bowl, in order that it may be collected together. Sinking, is performed by getting it down, or ſinking with the Hand, without breaking.

In order to prevent a difficulty in getting the Whey to ſeparate eaſily when ſinking the Curd, you may prepare a long Cheeſe Knife made with a Lath, one edge being ſharpened to cut the Curd a croſs from top to bottom, in the Tub, three or four different times croſſing the lines, checkerwiſe, by which means the Whey riſes through the vacancies made by the Knife, and the Curd ſinks with much more eaſe. I have alſo known a ſieve uſed to facilitate or haſten the Curd ſinking, with ſucceſs, as it gives an opportunity to lade off the Whey clear from Curd, gets the Curd down much eaſier and ſaves time.

When all the Curd is got firm at the bottom

bottom of the Tub, by preſſure of the hand, let all the Whey be taken from it; then let it ſtand one quarter of an Hour for the Curd to ſettle, drain, and get ſolid, before you break it into the Vat; if any bits of ſlip Curd happen to be ſwimming in the Whey, that does not ſink with the reſt, it had better be put away with the Whey, than put to the Cheeſe, as it will not cement or join with the ſolid Curd, and all ſlip Curd, as before obſerved, diſſolves or melts, ſo that it is a detriment to Cheeſe when ever put in; many People, as ſoon as the Whey is removed, immediately break the Curd ſmall as poſſible, and then put it into the Cheeſe Vat, for finiſhing. I would always recommend that it reſt one quarter of an Hour, before 'its broke, or vatted; the Cheeſe would be much better for it, as the Air would more eaſily ſeparate, and prevent its puffing up under your hand, when ſqueezing in the Vat, and alſo prevent the Fat ſqueezing out, as it often does through your Fingers; which being ſo much broke, occaſions, and certainly it muſt make your Cheeſe, both leaner and lighter. I have conſulted many good Dairy-women,

on the Article of breaking Cheeſe, and find, 'tis the moſt general method to break the Curd as ſmall as poſſible, when put into the Vat; but what makes that more abſolutely neceſſary, is, there being ſlip Curd amongſt it, and that never appears to embody, or join with the reſt, unleſs broke and thoroughly mixed; and even then I am fully convinced is of no uſe for the reaſon above given; although I have laid it down as a rule, never to ſtir or gather the Cheeſe in leſs than an Hour and half, many of the beſt Dairy-women I have ever conſulted, generally let it ſtand two Hours; by which time the Curd is got to be of ſo firm a nature, as to render the breaking of it at all abſolutely needleſs, it being got ſo ſolid, they only cut it in ſlices, put it into the Vat and work it well into it, by ſqueezing thoroughly to make it firm and cloſe, then put it into the Preſs, and no more is needful. The fineſt, fatteſt and beſt Cheeſe I have ſeen, I have been informed was made this way; there is ſure to be no ſweet Cheeſe, horny-coated, or jointed Cheeſe made in this manner; ſometimes I have obſerved Cheeſe that has been

ſunk

ſunk, tho' very fat and well taſted, that would become very hard and cut chiſelly, which I take to be owing to the Curd getting very cold and ſet hard before Vatted, to prevent its doing ſo, it may be neceſſary to break the Curd and not give it quite ſo much time in earning; as many People prefer Cheeſe that is not ſo very ſolid, or that has a mellow ſoftneſs, which breaking will give it; although it is reckon'd the beſt quality to cut ſolid, and flakey; remembering that giving it more time in earning makes it more ſolid, and ſhortning the time makes it leſs ſo. Many Dairy-women are much puzzled concerning the cauſe of ſweet Cheeſe, forming different ideas about it; I am fully convinced it is wholly cauſed by ſtirring or breaking it too ſoon in the Tub, by which means the Runnet has never taken full effect, nor is any ſlip Curd ever fit to make Cheeſe with, in what ever ſtate it may appear, unleſs in ſoft Cheeſe, or ſlip-coat Cheeſe; for when Curd is quite in a ſlippery ſtate, eſpecially if very warm, ſalt will have very little effect on it, which is the cauſe it is ſo apt to putrify and diſſolve, and a very principal cauſe why

Cheeſe becomes ſweet, is, its not having taken ſalt, as you may generally perceive Cheeſe that is much jointed or blue pared has ſcarce any reliſh or ſaltneſs in it. When the Whey is of a white colour the Curd is not fully ſettled, and if it is ſo to any great degree, the Cheeſe is ſure to be ſweet, and in that caſe you always caſt away great part of what ſhould be Cheeſe, for the Whey thus put away would neither turn to Butter nor Cheeſe, though of a conſiderable ſubſtance, remaining of an undigeſted nature: If you purſue the method I have laid down, you will always find the Whey quite green, which is the colour it ought to be of; and let more or leſs be the time you adopt to put your Cheeſe together, if the Whey is not green, depend upon it your Cheeſe is not properly come, or your Maw-ſkin is not good, or quantity of Runnet not ſufficient. It is difficult to aſſertain what quantity of Runnet is required to bring a Cheeſe in the moſt proper manner, as the quality of the Skin is ſo various, and ſtrength of Runnet, as well as quality of Milk ſo different; People are much divided in opinion, whether

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'tis the beſt way to make your Runnet freſh every Day, or to prepare a quantity together, according to the quantity you want and bottle it up for uſe; in large Dairy's it muſt be beſt to make a quantity together, as you certainly muſt be a better judge of the quality, or what quantity is neceſſary, than when the making is left to chance, as by that means you may regulate the quality and taſte of your Cheeſe better, and have more dependance on the time of its coming.

The beſt Dairy-women I have known, in general, recommend the latter method.

The cauſe of jointing or wind-ſhook Cheeſe, is from a ſmall quantity of ſlip Curd being much broke, ſo as not ſufficient, to form Eyes in the Cheeſe; but which is ſufficient when diſſolved through the whole maſs, to leave a vacancy, which generally unites in a perpendicular direction, and forming cracks or joints within the Cheeſe, and ſinking joints nearly like to cracks on the outſide. If it happens to any conſiderable degree, it cauſes the Cheeſe to have very little taſte, generally turns blue-pared whilſt under a year old, and

often rotten Cheese when older; most dry rotten Cheese is produced from this effect, unless when bruises, or cracks are the cause. Wet, or moist rotten is generally produced by a larger quantity of slip Curd; having never united in a solid state, nor taken any salt, becomes very putrid and rots, and as the Cheese dissolves, is often very wet or moist. I have several times seen Cheese that has appeared sound till cut, that afterwards had not a pound of sound Cheese in a whole one. Spungy Cheese is such as partakes of the elastic or springing quality of a Spunge, I take it to be produced from Curd, which has nearly undergone every proper fermentation to make the Curd unite, but leaves it in a very tough state, caused by the over heat of the Milk when put together. Rank, or strong Cheese is generally caused by too great a quantity of Runnet, and that Runnet made too strong to operate in the time given, or from Runnet being made with foul materials; hove, or heaved Cheese is caused by different means; when the quantity of Air in Cheese increases after the Cheese has been some time made, I suppose such Air to be rarified

rarified by a greater heat than the Cheeſe has before been in, the coat being got hard and the pores much cloſed, the Air expands within, and cauſes the Cheeſe to riſe or ſwell, in a round form; this is very viſible when you put a taſter into the Cheeſe or a pin to let out the Air, it ruſheth forth with a ſtrong wind, of a rank diſagreeable ſmell, cauſed by the Air being diſcharged from putrid or undigeſted Curd. Sometimes, if Cheeſe is laid cool when firſt made, or coming from the Preſs, is dried outwardly by means of a harſh cool Air, when at the ſame time the inſide of the Cheeſe remains in a moiſt ſtate, though the coat is hard and dry; when that Cheeſe is expoſed to heat, either by lying near a hot Wall, or near Tiles in hot Weather, or by the immediate heat of the Sun, it will be drawn up, round, in the ſame manner, and by the ſame cauſe that a board is made round or coffer'd up, by the heat of the Sun; rank Cheeſe very often heaves, from the cauſe before given that makes it rank: 'Tis very common for Dairy-women, to aſk, what will cure hove, or heav'd Cheeſe? I am fully of opinon there is no cure for it

after it is affected with heaving, but to let the Air out of it, that it may close and settle again. There has for many Years, been an ingredient sold in Shops, called Cheese-powder, being made of nitre or salt petre, and bole armoniac proportion'd thus, to one pound of salt petre, put half an ounce of bole armoniac, both powder'd very fine, and well mixt together, rub about one quarter of an ounce upon a Cheese, when put a second and third time into the Press, about half on each side the Cheese at two different meals, on the upper side, before you rub the salt on, that it may penetrate the Cheese with it; these are very binding ingredients and are sometimes found to be very serviceable, but nitre is apt to give the Cheese an acetous or sourish taste, and if too much is put in, and the Cheese is expos'd to great heat, will cause a fermentation, that will encrease the quantity of Air in the Cheese & cause it to swell more than it would if none had been put in. I have known many things recommended as a cure, but could never find that any thing was serviceable except the above, and piercing, or discharging the Air, with a needle, wire,

or

or ſkewer. The moſt powerful preventative to the heaving of Cheeſe, is, to avoid making the Runnet too ſtrong, or, not to put too much into the Milk, to take care that your Runnet is not foul, nor made either with Whey or Brine drippings, or tainted Skins, to be certain that your Curd is fully come, not ſtirring it till it has had time for the fermentation fully to take effect, to let it drain a little before it is broke or vatted, and to keep the Cheeſe warm, till it is got ſtiff, or had a ſweat, and you will, by a careful attention to theſe particulars, very ſeldom have any hove Cheeſe.

Cheeſe is very apt to ſplit, or divide in the middle, by being ſalted within, eſpecially, when people ſpread ſalt acroſs the middle of the Cheeſe when the vat is about half filled, which Curd tho' in a ſmall degree ſeparated by ſalt, never cloſes, or joins, and is much eaſier coffer'd up or drawn round than other Cheeſe; eſpecially, thin Cheeſe made in what we call *Gloceſter* vats being round or riſing in the bottom, and the ſlider or Cheeſe-board that is laid over it, made convex

convex alſo, in order to make the Cheeſe thinneſt in the middle, that it may dry quick, for early ſale. Then, if ſalted within and being laid ſoft on the ſhelf to dry, as it bears only on the edge all round, it is almoſt ſure to ſplit; and it is often ſeen, ſcarce a Cheeſe in ſome Dairys of this form but what do ſplit; ſalting a little in the Milk is greatly preferable, for theſe Dairys in particular; for as ſalt diſſolves, it keeps the inſide of the Cheeſe moiſt or ſoft for ſometime, if ſalted in the Curd, which is what I would never recommend to be done in any Dairy, eſpecially acroſs the middle as is often done. I have ſometimes known Cheeſe thus ſalted when there has been much ſlip Curd in it, and that, and the ſalt both diſſolving together, and the Cheeſe ſplit, the vacancy ſhall contain a quantity of Water, which if ironed when Young, guſhes out, or elſe cracks the Cheeſe when moved, and the Water runs out to a conſiderable degree, the ſame thing muſt have been obſerved by other Factors, in ſome Dairys where ſalting in the middle is uſed. Cheeſe is apt to bulge, fly-out, or get round edged,

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when it is either kept ſoft, by being moiſt within, or having too much ſlip Curd or unſettled Curd, or elaſtic Air within it. Dry cracks, or wind cracks are generally produced, by keeping Curd from one meal to another which gets quite cold and fixed, and being put together with Curd that is made of too hot Milk, theſe two, never properly adhere, or join, and cauſe the coat to be harſh, and often fly, or crack. Curdly or wrinkle-coated Cheeſe is cauſed by ſour Milk, chiefly when Cheeſe is made from two meals, as 'tis very common in hot Weather for Milk to turn, or get ſour in one night's time, eſpecially if Milk is hot when ſet up, having been much heated in the Cow's Udder, and very probably much agitated and diſturbed by Cows running about, or being heated to a violent degree, or the Milk having been carried in Churns or Barrels on Horſe-back any diſtance; Cheeſe made of cold Milk, eſpecially if inclined to be ſour, is apt to cut chiſelly, or that breaks or flies before the knife. Sunk-coated Cheeſe is cauſed by being made too cold, as you will often find Cheeſe that is made in Winter or late

in

in Autumn, will be, unleſs laid in a warm Room after it is made. Two-meal Cheeſe is made with two-meals, or night and mornings Milk, which if put together pure, not having the Cream taken off, will make nearly as good Cheeſe as new Milk, and much better if it muſt be finiſhed in one Hour, or leſs, or when new Milk Cheeſe is made with Milk that is too hot.

What is generally known by the name of two-meal Cheeſe, is in *Glouceſterſhire* called ſecond Cheeſe, being made from one meal new Milk and one of old, or ſkimmed Milk, having the Cream taken away. Skimmed Cheeſe, or Flet-Milk Cheeſe, is made from all ſkimmed Milk, the Cream having been taken off the whole to make Butter, or for other purpoſes: This ſort of Cheeſe is much made in the County of *Suffolk*, or at leaſt goes by the name of *Suffolk* Cheeſe, when at market, or in *London*, where the principal part of it is diſpoſed of; it being much uſed on ſhip-board, not being ſo much affected by the heat of the ſhip as richer Cheeſe, or ſo ſubject to decay in long Voyages

ages, and being bought at a low price, makes it much called for in that way. There is but little art required in making this Cheese, if care is taken of it, but yet there is great difference in the quality of it, which I am fully convinced is principally caused by want of care; it is not exposed to so many difficulties as richer Cheese, but Dairy-women must remember, slip-curd has the same effect, in a lesser degree in Skim-Cheese as in new Milk; though the Milk being much weaker is not in so much danger. An Hour, or an Hour and a Quarter is time enough to give it in rendling; keep the Cheese warm when young, and cool after. I know some Dairy-women do not give it three quarters of an Hour in coming, and thereby find more difficulty than need be; paying little regard to it, as they do not use it themselves, nor will it fetch much money, yet I know some careful Dairy-women who make Skim-cheese that would deceive a common observer, in appearance, being made in the same form as new Milk Cheese, well coloured, made clean, and better coated, than many ordinary Dairys of new Milk Cheese.

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I have paid in a Dairy of thirty Cows upwards of ſixty Pounds in a Year for ſkim Cheeſe, an object not unworthy a Dairy-man's notice, ſome people are of opinion, the moſt Money to be made of the ſkim Milk of a Dairy, is to feed Sows and Pigs with it, but this I muſt leave to thoſe concerned in the buſineſs. Some Dairy-women in order to enrich their new Milk Cheeſes will put the Whey Cream, into their Milk, which if quite freſh, not older than one or two Meals, will improve it. To make fine Cream Cheeſe, one meal of Cream extraordinary ſhould be added to the new Milk; this will make exceeding rich Cheeſe, but requires great care, and ſhould not be gathered or ſunk in leſs than two Hours. I apprehend two Hours and a half or three Hours will be found much better in general.

The way recommended to make ſoft Cheeſe, or ſlip coat Cheeſe, is, take ſix quarts of new Milk hot from the Cow; the ſtroakings or laſt Milkings are the beſt, being the richeſt Milk; put into it two ſpoonfuls of Run-

Runnet, let it ſtand three quarters of an hour, or till it is hard coming, or become full Curd; lay it into the Vat with a ſpoon, not breaking it at all, laying upon it a trencher, or flat-board; preſs it with a four pound weight, or if you find it gets too hard, then preſs it with a lighter weight, turning it with a dry cloth once an hour, and when got ſtiff, ſhift it every day upon freſh graſs or ruſhes; it will be fit to cut in ten or fourteen days, or ſooner, if the Weather be warm; many people uſe Baſkets, made on purpoſe, inſtead of Vats to make it in, this is eſteemed in private Families; where it is carried to market, Vats muſt be beſt, unleſs carried in the Baſkets.

To make brick bat Cheeſe; in *September*, take two gallons of new Milk, and a quart of good Cream; warm the Cream, put in two or three ſpoonfuls of Runnet, when it is well come, break it a little, then put it into a wooden mould in the ſhape of a brick, preſs it a little, then dry it; it is beſt to be half a Year old before it is uſed, or more, if you like it older; two hours is as little

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as it ought to be in earning, or to ſtand before it is broke after the Runnet is put in, or longer if the Whey is not inclined to be green. I am informed *Stilton* Cheeſe is made in this way.

Cream Cheeſe is generally made in *Autumn*, the Milk being richer and fatter in *Auguſt* and *September;* by which means it has not the warm Seaſon to ripen it, and it is generally made thick, in order to preſerve it's mellowneſs. Rich Cheeſe will not dry ſo faſt as lean, nor thick Cheeſe ſo ſoon as thin; in courſe it muſt get leſs hard in the Seaſon than common thin Cheeſe, by which means it is more expoſed to froſt and chilling cold. I have often found that people who make Cream Cheeſes, find more caſualty attend them, than in leaner, hard Cheeſes, owing to chillneſs, or being froze before they get hard; for when froſt gets much into Cheeſe, it deſtroys every good quality, and makes it putrify, and become either inſipid or ill taſted; Cream Cheeſe ſhould always be kept in a warm ſituation, and be particularly guarded from froſt, and till

till it has ſweat well, or you will loſe the advantage of its richneſs. The contrary method is to be uſed with ſkim Cheeſe, as in that, there is very little fat to ſweat out, and chill Cheeſe is better than harſh-meated, horney-coated Cheeſe; let it have what warmth you can for about a fortnight after making, and then keep it cool.

In making ſlip-coat or ſoft Cheeſe, remember it is of quite a contrary nature to hard Cheeſe; and inſtead of getting ſtiff, its beſt quality is to have it run, or diſſolve into a creamy ſubſtance; for which reaſon it muſt be made with Slip-Curd, which alone will cauſe it ſo to do; good Curd will always get harder by drying, but Slip-Curd will not even become ſolid, or continue a Subſtance; this clearly demonſtrates my Sentiments on Slip-Curd as before related. It has generally been reckoned that the Milk required to make one Pound of Butter will make two Pounds of Cheeſe, and a larger quantity where Land is poor, the Milk being weak will not afford ſo much Cream.

As colouring of Cheeſe is now become almoſt an univerſal practice, it is highly neceſſary to pay a due regard thereto; Cheeſe, in its native ſtate, that is well Manufactured, being put together in proper time, the Milk of proper warmth, well cleaned when young, and kept warm, till being regularly Dry, will naturally be of a yellow caſt, and when a Year old will coat of a reddiſh or brown-red colour; the richer the Cheeſe, the more tis inclined to appear in this manner, and you ſeldom meet with Cheeſe of this native caſt but what is exceeding good, being fat, well-taſted, cuts flaky, is ſtout, or full-taſted, high-flavour'd Cheeſe; and it is found that every country will produce ſome ſuch Cheeſe, when in the hands of ſkilful Dairy-folks, though it has yet appeared in a ſmall degree; you will find ſuch Cheeſe among the fine Dairys in *Cheſhire*, *Double-Glouceſter*, or *Thick-Glouceſter*, being made double the Thickneſs of common Cheeſe, *North-Wilts*, in ſome few Dairys, in *Derby*, *Stafford*, *Leiceſter*, and *Warwickſhires*, but there being ſo ſmall a proportion of this beſt Cheeſe, and the demand for it being larger

larger than the ſupply, a ſubſtitute is thought neceſſary, to make good Cheeſe look as much like fine Cheeſe as poſſible, from which cauſe the art of colouring originates, and much increaſes.

It is remarked by dealers in Cheeſe as well as others, that a much greater part of the People that eat Cheeſe, have little Idea how it is produced; they, finding the beſt Cheeſe of the fulleſt, or yellow colour, naturally conclude, or are led to think, that Cheeſe of a pale colour, muſt be made with inferior (or ſkimmed) Milk. So much this Idea prevails, that it is well known, in *London*, a Cheeſe-monger will more readily ſell good Cheeſe of a full colour than fine Cheeſe of a pale or inferior colour; *London* being the principal Market, or place where the greateſt quantity of the beſt Cheeſe is ſold. Colouring formerly uſed to be performed by various Drugs, as *Turmerick*, *Sanders*, *&c.* by *Marigolds*, *Hawthorn-buds*, and the like. The principal ingredients now uſed is *Annatto*, and in its beſt kind, is much the beſt colouring that ever was found out. *Annat-*

*to* is of two ſorts, known by the name of *Spaniſh-Annatto* and *Flag-Annatto*, the former is much the beſt for Cheeſe-colouring; being of a hard ſubſtance, and proper in kind, or texture, diſpenſing its colour in a regular and free manner, without being ſubject to much waſte or decay. The *Flag-Annatto* is brought over in a moiſt ſtate, and wrapped in large broad *Flags*, which keeps it in ſome degree from waſte; it is brought in that ſtate chiefly for the Dyers uſe, and is a principal Article in Dying Orange-colour; if this ſort is uſed in colouring Cheeſe before it gets hard, it is apt to appear in the Milk of an oily nature which prevents the colour taking effect in a regular manner, and is ſome detriment to the coming of Cheeſe; if it is kept till quite dry and hard, which in courſe of time it will be, perhaps in ſix, nine, or twelve Months, it is then very little inferior to *Spaniſh*. Of this laſt ingredient, mixt with others, the Druggiſts and Blue makers in *London*, make large quantities of what they call Cheeſe-colouring, often giving it the name of *Spaniſh Annatto*, and there is ſome of it made, to very much

much reſemble it, both in nature, and colour. But true *Spaniſh-Annatto* is much preferable; I have known an ounce of it colour ten hundred weight of Cheeſe, of a much better colour than any other ingredient would that I ever knew; I have known it formerly ſold in ſhops at three ſhillings, and four ſhillings *per* ounce; the great price it then brought at market, and getting very much into uſe, induced the *American* planters, at one time, to ſend a large quantity, which ſo much over-ſtocked the market, and lowered the price, that it was not worth their while to make it; and for that reaſon, very little of the genuine ſort has come to *England* ſince; but the ſame materials have come in flags, which come at a much lower price, though nearly as dear in the end, being ſo much heavier, and the colour not going ſo far as the *Spaniſh*, nor is the colour ſo exquiſite or blooming as the *Spaniſh*; that, giving the Cheeſe the bloom of native yellow Butter, when made in the prime ſeaſon of Spring. An ill opinion having been formed of coloured Cheeſe, and by many ſaid, that it is un-

wholſome; in order to remove that prejudice, I will endeavour to deſcribe its nature. It is made from the ſeed of a plant, of the flowering kind, much like to a balſam, the ſeed is ſo much like it, as ſcarce to be diſtinguiſhed from it; I have ſowed it, but without effect, our climate being too cold. I was ſomtime ſince enquiring of a *Jamaica* Planter, how the *Annatto* was prepared for uſe; who ſaid when the Seed was ripe it was covered with a ſlimy or unctuous ſkin like as Linſeed is, which being ſteeped a little while in water, became looſe from the Seed and was rubbed off with a cloth or flannel, which being afterwards waſhed with water, was ſunk to the bottom; on pouring the water off, the *Annatto* was produced in a wet pulp, or paſte, which being wrapped in flags, was ready for Dyers uſe.

In the *Spaniſh Iſlands*, they dry it and make it up in balls for uſe, and 'tis a principal ingredient in lacquering braſs, *&c.* as well as colouring Cheeſe. I am well convinced that in its pure ſtate, it is of a very rich fattening nature, and improves Cheeſe

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to a great degree, in quality, as well as colour; as I never met with any Cheeſe ſo exquiſite, that had not been coloured with it, as I have of that which hath. The way it is uſed in colouring Cheeſe, is, take a piece of *Spaniſh-Annatto*, which appears in form of a ſtone, then take a bowl of Milk, dip the *Annatto* a little into it, then take a pebble, or hard Rag-ſtone, on which rub the *Wet-Annatto*, waſhing off the *Annatto* into the bowl, till it becomes of a deep colour, then put that into the tub, or pan of Milk you make Cheeſe of, (before you put in the Runnet or Salt) in ſuch quantity as will render the whole of a pale Orange-colour, which will get deeper, or increaſe in colour after the Cheeſe is made; one good property *Annatto* partakes of, it neither affects the Cheeſe in taſte or ſmell. Cheeſe is often impregnated with Sage, by bruiſing the leaves and mixing the juice with Milk, which gives it a green colour, and an agreeable taſte. Some uſe Parſley in the ſame manner, but that is not ſo much eſteemed for flavour as Sage, Marigold-flowers are bruiſed and uſed the ſame way; theſe flowers are reckoned of a

very fattening nature, and good flavour, and eſteemed the moſt of any, and give the Cheeſe a colour nearly equal to *Annatto*. Cochineal is alſo uſed by the curious, being of a fine pink hue, and has a pretty effect, in the hand of an ingenious Dairy-woman, in making figures of Flowers, Trees, *&c.* in Cheeſe.

Dairy-women who are fully of opinion, that no better method can be uſed, than that which they apply, are not often very readily convinced, that there are better methods of making Cheeſe than theirs. A Factor who is a good judge of Cheeſe, ſees a great variety in the quality of Cheeſe, and altho' moſt People like good Cheeſe, yet ſo eaſily is the difference diſcerned by nice judges, who have frequent opportunities of remarking it, that they can perceive a real and diſtinguiſhing property, that cauſes a very different Idea in them, from what they hear advanced by the makers. Such a dealer is very certain, that in a large connexion of trade, he will find ſome very good judges, who know how to prefer excellence in quality,

and

and are well acquainted with the perfections required in the article, and perhaps from their ſituation in life, are enabled to get a much higher, than a common Market-price, for a ſuperior Article: Such a Perſon will have ſuch goods, in what place ſoever they can be met with, and knows alſo that in order to procure them he muſt give a ſuperior Price.

A Perſon who engages to ſupply ſuch cuſtomers, as ſuch there are in perhaps every country, in a larger or leſſer degree, muſt uſe his own judgment, and not depend on the good opinion others may form of their goods. He will find in a very large ſurvey, amongſt Dairys, in the beſt country he travels, a very ſmall proportion of excellent Dairys, or ſuch as will ſupply thoſe particular cuſtomers, and when he meets with them, is perhaps, obliged to deal them out very ſparingly to the different good cuſtomers, that may wiſh to have ſome particular nice, and good Cheeſe for ſuch of their Friends, who are likewiſe determined to have the very beſt they can meet with.

Very

Very good ſecond-rate Cheeſe, is much more ſcarce than inferior, and the beſt, will ſtill find cuſtomers. Every dealer would be happy to find a large ſupply of fine Cheeſe, every maker of Cheeſe would be glad to have his Dairy meet with that preference. Some Dairy-folks will complain that there is not proper encouragement given for making good Cheeſe; as Factors give for all Dairys in a neighbourhood, nearly the ſame Price, though ſome of theſe Dairys are not ſo good as others, by ſome ſhillings *per* hundred: But then let theſe people remember, that 'tis themſelves only that ſit in judgment in this caſe. Bring the makers of two Dairys together, and you will hear each of them give the preference to their own. The Factor muſt clear himſelf of this charge! For 'tis of dangerous conſequence, for a Factor to complain of any fault in the Cheeſe to the maker, or not give it ſufficient praiſe.— Perhaps he will ſay to the Perſon, whoſe Dairy may appear the neateſt, and have had moſt care taken of it, and in the Eye of moſt people, had the preference, your Cheeſe is extremely neat and good, is fat and mild,

and

and will pleaſe many of our beſt cuſtomers exceedingly, will even ſtand in competition with *Glouceſter* and *Wiltſhire* Cheeſe, which is always neat, well-handled, and moſtly eſteemed by genteel People, your neighbour's Cheeſe is not ſo mild or beautiful, but has many good qualities, 'tis full flavoured, ſtout Cheeſe, ſuch as is moſt in demand, is bought by people who do not ſo much mind the beauty of it, as being profitable Cheeſe to buy, that will ſpend well, or according to the common Phraſe, will eat Bread well, and though there may be a few ſtrong Cheeſes amongſt them, there are many cuſtomers wiſh to have them ſo. If you go into a Fair, you will find ſome people looking for handſome mild Cheeſe, but more buyers of ſtout, good ſpending Cheeſe, of which they muſt be better judges, what ſuits their ſale, than the makers.— Certainly there are in moſt Countries, ſome few Dairys that have all the good qualities; beautiful, fat, fine flavoured, *&c.* and theſe generally find their way to the beſt market. There is one beſt way of doing every thing, and 'tis what in every way of life is a cauſe of ſtrife; a maxim I was taught in

my

my youth, was, never ſtrive to be ſecond beſt, ſome one muſt prevail, and they that do muſt ſtrive for it, the beſt way of doing a thing is as eaſy, when known, as the ſecond beſt. This emulation is what every dealer in Cheeſe would wiſh to diſcover in the breaſt, and proceedings, of the Different Dairy-folks in his walk, that he might be enabled to go to Market, as one, who could lead and command both the opinion and intereſt of the beſt cuſtomers: Such goods as would give that preference to him, would of courſe give the command in price to thoſe who ſupplied him; for though the Cheeſe they now make, may at preſent ſupport their own good opinion, yet, when they come to find, that they have improved in ſo great a degree, as to enable them to ſee excellence, where they only ſaw uſefulneſs, and blooming beauty, where only mediocrity appeared; Ambition and Intereſt, their boſom friends, will point out a new road to them, in which they will travel, not only as ſwift and proſperous, as their rival neighbours, but will not leave them in an eaſy and compoſed ſtate, till they have out gone them. In this happy track I confeſs I

ſhould

ſhould be glad to meet many of my old friends and neighbours, in whoſe ſervice I have laboured many a long day; and ſo far as my abilities will ſupport me, ſhould be glad to be their conductor: but whether in my preſent purſuit, I may be ſo happy as to ſhew them the right road, is very uncertain. If by opening their Ideas afreſh, ſhewing them where Improvements may be looked for, and giving them ſome convincing circumſtances, where ſuch truths appear, they may be led to look farther to find better, I ſhall hope they are in a fair way to prevail. Some few circumſtances they perhaps may expect, to convince, and ſome freſh out-lines to extend the Ideas I have ſet on float. I will give you in a few inſtances, the way I came firſt to be moved in this purſuit.

The firſt that alarmed my Ideas, concerning the cauſe of ſweet, unſettled and ill-flavoured Cheeſe was, I was once going by a houſe, I knew was notorious for as bad a Dairy as I ever met with, the Dairy-woman ſaw me, and ſaid, won't you call and look at my Cheeſe, I am ſure tis as good as

my

my neighbour T—s, which you have been buying, I replied I fear not; come in then and ſee, ſhe ſaid; as ſoon as I came into the Dairy-chamber, I ſaw, and told her it would not ſuit me; why not, ſhe replied, I am ſure 'tis every drop New-Milk, and nobody can take more pains with it, nor work harder at it than I do. On looking to the farther ſide of the room, I perceived a Cheeſe that was very blooming in appearance, handſome in ſhape, well-coated, firm, fat, and much larger than the reſt. I ſaid, pray how came that Cheeſe there — I ſhould be glad to know the Hiſtory of it; why truly ſaid ſhe 'tis a ſtrange one. I replied if you will make ſuch Cheeſe as that, it would be worth five ſhillings, or even ten ſhillings a hundred weight, more than the reſt; ſays ſhe, one night when I had rendled my Milk, a perſon came running to me, and ſaid, neighbour T— is groaning and you muſt come immediately; I ſaid to a raw wench I had to help me, now be ſure you dont touch this Cheeſe till I come back, I will be ſure to come to you when I ſee how neighbour T— is; but it happened ſhe was worſe than I expected,

pected, and I could not leave her till after midnight. I ſaid, my Cheeſe will be ſpoiled, but the poor Woman ſhall not be loſt for a Cheeſe; when I came home I found it not ſo bad as I expected, put it into the Vat in a hurry, ſaying, it may poſſibly make a Cheeſe that will do for ourſelves, but I little thought it would ever be a ſaleable Cheeſe;—well now—ſaid I, and is not this Cheeſe a proper leſſon to you? dont you thereby plainly ſee that you have made the reſt too quick—why yes—ſaid ſhe, it might, if I had thought at all—but I declare, I never once thought about it—Profound ſtupidity! thought I to myſelf, and left her—however, this plainly convinced me that Cheeſe in general was made too much in a hurry, and often when I came to a Dairy where the ſame complaint prevailed, I told them this ſtory, and it frequently had the good effect, to produce good Cheeſe in the lieu of bad, by giving more time to the Milk in earning.

To corroborate with this ſtory alſo, my own opinion, that good Cheeſe may be made

made by a ſkilful Dairy-woman in any place, or on any land; there now lives in the ſame farm, where this old woman did, a perſon who makes, without exception, as good a Dairy of Cheeſe, in every point, as I ever met with in any country; I have had this Dairy, at a Fair at a diſtance for many years, and two or three people were generally at ſtrife to have it, and it commonly happen'd that it was made a point of by Buyers, that if I would let them have that Dairy, they would buy their whole quantity of me, ſo that it generally was the cauſe of my ſelling three or four other Dairys along with it. Next, to ſhew that there are many Dairy-women do not make ſo much Cheeſe from the ſame Milk, or near it, as they might, or ought to do; on the evening of a very hot day, I went through a Farm-yard, and was much pleaſed to ſee as fine a Dairy of twenty Cows as I had ſeen for a long time, on going into the Dairy-chamber, to my great ſurprize, I found a poor parcel of very lean, hungry looked, ill ſhaped, bad taſted, hove, and Whey-ſpring Cheeſe,—I ſaid to the Dairy-woman, certainly this is not all

the

the Cheeſe you have made from the fine Dairy of Cattle I ſaw in your yard! It really is, ſaid ſhe, except the few that are not come out of the Dairy. I have been ſo ill for the laſt two or three months, I could not poſſibly be amongſt it, and I find my maids know very little of the matter. It is a poor parcel, and I am aſhamed to ſee it; I replied your ſervant takes a wrong method in making Cheeſe; I will engage to tell you how you ſhall make two Cheeſes where you now make one, or one Cheeſe as large again; that difference, ſtruck her much; if you will ſhe ſaid, I will try it, and this very evening—Then, ſaid I,—as the weather is hot, take three or four quarts of freſh ſpring Water, or in ſuch quantity till you find your Milk is what you may properly call Milk-warm, then, put two or three handfuls of Salt into it,—after that put your Runnet into it, and let it ſtand an hour and half before you ſtir it, if 'tis two hours it will be better, and you will be ſure to have more Cheeſe, in that time, the Curd will incline to ſink eaſily to the bottom of your Tub, then collect and gather your Curd,—

let it ſtand one quarter of a hour to ſettle, then Vat it, and put it into your Preſs; let it ſtand in the Preſs two or three meals, turning it in the Preſs once between the firſt meals, and at each meal after — ſhe followed my advice preciſely, the Milk being at reſt before I left the houſe. Some time after, I enquired of her how my advice ſucceeded; ſhe ſaid quite well, and I am convinced we had not made half the Cheeſe we ought to have done. But obſerved, their Pigs had been found to thrive in a ſurprizing manner, and well they might, after having had more than half the produce of the Dairy.

I once met with a young Dairy-woman at a Fair; who had a lot of Cheeſe unſold, after almoſt every Dairy in the Yard it ſtood in was diſpoſed of; ſhe aſked me to buy her Cheeſe, having bought ſome adjoining Dairys; I objected, ſaying I do not like it, ſhe ſeemed rather ſurpriz'd, ſaying, I am ſure 'tis made of as good Milk and as well took care of as any of my neighbours that you have bought, I told her the method ſhe

ſhe took in making the Cheeſe was wrong, ſhe ſeemed quite deſirous to improve it if ſhe knew how. I deſired her to follow the method deſcribed above, exactly, which ſhe promiſed to do, but obſerved it was ſo contrary to what ſhe had ever heard of, ſhe ſhould be ſurprized if it made good Cheeſe. I ſaid the Cheeſe you have here is very bad, the way to make good Cheeſe muſt be contrary to that in which this was made, for the like reaſon as when a perſon is in a burning fever, cooling medicines are applied to reſtore him; when very chill, a warming remedy will have effect—ſhe wiſh'd to know what were the faults of her Cheeſe; I told her it was very looſe, ſweet, or ill-taſted; that rather diſpleaſed her, and ſhe ſeemed to miſtruſt my knowing any thing of the matter—ſaying—it is not ſweet—how can you poſſibly know that never taſted it, I told her Cheeſe of that countenance always was ſweet. I put my taſter into one and gave it her to taſte, ſhe acknowledged it was very rank, but wondered how I could know it was ſo—I perceived the Cheeſe of an unſettled nature, that I had

not a doubt the Milk had been carried in Churns or Barrels, I ſaid I imagine your Dairy-ground is ſome diſtance from your Houſe, do you milk your Cows in the field or drive them home, ſhe ſaid ſometimes the latter, but generally the former, and brought the Milk home on Horſe-back. I told her how difficult it was to make good Cheeſe of Milk carried in that way; ſhe ſaid I find you know where I live, I replied I dont know ſo much as the County you live in, ſhe ſeemed quite aſtoniſh'd; I ſaw a huſky dry coated Cheeſe on the top of one of the heaps, that had dry cracks in it; I ſaid, I ſuppoſe you remember how that Cheeſe was made; ſhe anſwered in the affirmative, when you made that Cheeſe, I ſaid, you had reſerved ſome Curd from the meal before, and put into the other Curd, next meal, which having been rendled too hot would not join together, as I will ſhew you by the different Curds in the Cheeſe, which I did in my taſter, the white looking Curd being the old Curd which cauſed the cracks, and the yellow the New-Milk, (and you may always obſerve a mixture of that kind where Curd is

kept

kept from the laſt meal, appearing marbled and cutting chiſelly )— She acknowledged that Cheeſe was made in the manner I deſcribed, ſeemed very thankful for my advice, and purſued it very nearly the next Summer, when ſhe produced at the ſame Fair the following Year a Dairy of Cheeſe with very few faults; I pointed them out to her, told her how to remedy them, as in the rules before deſcribed; ſhe thanked me, and the next Year with great pleaſure ſhewed me an exceeeding good parcel of Cheeſe.— A near relation of mine, who kept a Butter Dairy, was deſirous of making Cheeſe, and ſaid to me, I am entirely ignorant how to proceed, but if you will point out the right method, I will exactly follow it, I gave her the ſame direction as to the former Dairy-woman, ſhe followed it, and I am certain no one can make nicer, or fatter well taſted Cheeſe than ſhe did, being one Day ſaying how good her Cheeſe proved, obſerved ſhe had one Cheeſe, then cut, that was jointed and blue-pared, and wiſh'd to know the cauſe of it; I examined it, and found it muſt be cauſed by ſlipcurd; ſhe ſaid ſhe never altered, or ſhortened

the Time given for the coming of the Milk after it was rendled; on ruminating the cauſe, I ſaid, do you put your bowl in the Tub when the Runnet is in? She replied always; do you ever find any difference in the Curd under the Bowl from the reſt, on removing the Bowl?— Sometimes I perceive the Curd under the Bowl of a ſmooth ſlippery nature, and when I have tried to get it ſolid, I never could, it always ſlipt through my fingers, and ſome of it would ſwim in the Whey when the other was ſolid, which I always took care to break as ſmall as flour, among the other Curd— I ſaid is the Bowl being there of any uſe? She did not know that it was; ſhe took it away and had no jointed Cheeſe after, in her Dairy; which plainly convinced me that the Air under the Bowl prevented the Curd from coming in the ſame Time as the reſt, and that the ſmall quantity of ſlip-curd under it, was the ſole cauſe of the joints that appeared, for there was not an Eye in the Cheeſe, owing to its being broke ſo ſmall, which if any of the ſlip-curd had been left in bits of any ſize, would have cauſed Eyes larger or ſmaller in the Cheeſe, but now

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it diſſolved in the form, and manner before deſcribed, in jointed Cheeſe; it is a general practice with Dairy-women to put the Bowl in the Milk when the Runnet is put in, and leave it in till the Cheeſe is come; I have frequently aſked the reaſon for it, and the general anſwer was, that by taking the Bowl out, they might know when the Cheeſe was come; which will be much better known by putting the Bowl the contrary way, or the hollow part upwards inſtead of being downwards, for there is often ſlip-curd collects under the Bowl when put downwards and that makes your Cheeſe Whey-ſpring, or Eyey, and for that reaſon the Bowl had much better not be put in at all, eſpecially in Cheeſe that is ſunk, and not broke, as then the ſlip-curd is ſure to cauſe Whey-ſprings.—Another relation, being pleaſed with her Siſter ſucceeding ſo well, followed exactly the ſame method, having wrote down every particular, and her Cheeſe was remarkably fine and good. Theſe, and ſuch like inſtances convince me that good Cheeſe may be made by rule, or regular method, on any Land, providing nothing very ſingular pre-

vents, as from noxious weeds, plants, &c. or diſtempered Cattle. It is often obſerved poor Land makes the beſt Cheeſe; to thoſe who are fond of mild Cheeſe, it very often does, the Milk being weaker or thinner, is ſooner collected into Curd, than rich Milk, by which means it is often completely fit to ſink or gather ſooner, and has many chances of making good Cheeſe by that means, or in the ſame time allowed, than from better Milk, which will not become good Curd in the ſame time that is given for the weaker Milk; for if the Curd is not ſolid and good, no art can make good Cheeſe of it. But, if rich paſture, good feeding Land, being old Turf, has proper time given it to make good Curd, and the Cheeſe is well taken care of after, I always find the richer Graſs makes the beſt Cheeſe and more of it. To confirm my Opinion, that breaking Cheeſe in the Curd is a needleſs and exceeding waſteful method; being lately at a friend's houſe who keeps a few Cows only to make Butter and Cheeſe for their own uſe, and that of a few friends, the Gentlewoman ſaid to me, I could wiſh to know the beſt method of making

making fine Cheeſe, ( having met with ſuch at my relations, before mentioned ) and deſired my directions; and ſaid their Cheeſe was apt to be a good while in coming when in the Tub, their paſture being rich old Turf. I told them to give it full two hours, recommended putting ſalt in the Milk as before preſcribed, which was done, and to ſink the Curd inſtead of breaking it; after having a long knife made from a lath, cut the Curd from top to bottom, croſſing it many times, by which means the Whey ſeparates readily, then get a ſieve and there with you will preſs down the Curd with great eaſe. Having ſettled the Curd well, and let it ſtand a quarter of an hour to drain, having laded all the Whey out, it became quite ſolid — then the Dairy-maid cut it in ſlices and work'd it into the Vat, without ever breaking the Curd at all; with very little trouble, and in a ſhort time ſhe made a complete handſome Cheeſe; full one third part larger than any they had before produced from the ſame Cows, and continued ſo to do in ſucceeeding days, the Whey being quite green, which they could never bring it to be, when broke

broke and gathered in the Tub; and broke in the Vat afterward, which method certainly waſtes a great deal of Cheeſe and much impoveriſhes it by ſqueezing the fat out in breaking.

A friendly correſpondent, being a conſiderable dealer in Cheeſe, knowing of my intended publication, is ſo kind as to favour me with his ſentiments on ſome particulars; which, as ſome of them coincide with my own already deſcribed, and one in particular, promiſes great utility to very ſmall Dairys, and will be a conſiderable means to prevent ſour Cheeſe, by pointing out a method to preſerve the Curd without hazard, with his permiſſion I lay it before my readers. "I have ſome years been trying to find out "the reaſon why Cheeſe frequently looks "of a grey dirty appearance, and which is "always attended with a ſtrong diſagreeable "taſte, and from enquiries and obſervations "I have made, I am clearly convinced it is "owing to the Runnet being kept too long, "and not being ſweet when put into the "Milk. It is often the caſe in ſmall Dairys "in

" in order to make the Cheeſe of a tolerable
" full ſize, to make it but once a day, and in
" hot Weather it is almoſt impoſſible to pre-
" vent one meal being four, which muſt in-
" evitably ſpoil the Cheeſe. I beg leave to
" inform you of a method practiſed with
" good ſucceſs. A friend of mine who was
" a Farmer's Daughter, and had been uſed
" to a Dairy, marrying a perſon of a different
" profeſſion, they kept one Cow to give Milk
" for the family, which being ſmall ſhe could
" not uſe all the Milk; ſhe then tried to
" make Cheeſe of the ſurplus, and made
" tolerable ſized Cheeſes, perhaps ſeven or
" eight pounds each, in the following man-
" ner; when the weather was warm, ſhe put
" Runnet to the Milk as oft as ſhe found it
" neceſſary, once or twice a day, while it
" was ſweet; having ſeparated the Curd from
" the Whey, ſhe put the Curd into a broad
" ſhallow Tub, juſt covering it with cold
" water, and ſhifting the water two or three
" times a day as ſhe thought neceſſary, and
" thus kept the different parcels of Curd,
" till ſhe had enough to fill her Vat, by
" which means, ſhe made exceeding good

" Cheeſe

" Cheeſe. Some good Dairy-women, I think
" often err in the manner of breaking their
" Curd; tho' they make good Cheeſe, they
" might make better and more of it, if they
" did not ſqueeze out ſo much of the fat
" in breaking; the Whey that firſt runs from
" the Curd is always the thinneſt, and was
" that thin part firſt ſeparated, before the
" Curd was much broke, it would certain-
" ly leave the Cream in the Cheeſe, which
" would but little of it ſqueeze out in put-
" ting in the Vat, but when it is broke ſo
" very ſmall amongſt the Whey the rich
" parts are ſqueezed amongſt the thin Whey
" and carried away with it. I know an in-
" ſtance or two myſelf, of perſons who I
" firmly believe made their Cheeſe of real
" New-Milk, yet broke their Curd ſo much
" that their Cheeſe was not ſo good as I have
" had two meal Cheeſe. I think the method
" uſed in *Norfolk* and *Suffolk* to ſeparate the
" Whey from the Curd, is much preferable
" to that uſed in *Warwickſhire*, or *Leiceſter-*
" *ſhire;* when they think the Milk is ſuf-
" ficiently curdled, they lay a ſtrainer into
" a baſket ( made for the purpoſe, ) which
" they

" they put the Curd into and let it ſtand to " drain for a time, before they break the " Curd." In regard to my friend's opinion concerning what he calls grey, dirty looking Cheeſe, 'tis often cauſed by foul Runnet, but I am of opinion it more often happens when Cows have been drenched, either for the yellows or other complaints; and it will look of that countenance and get inſipid, or ill taſted when much frozen, as I have more than once had Cheeſe in my own poſſeſſion turn of that dark putrid colour after being much froze, that I knew was not ſo before it was affected by froſt.

Being lately in company with a Dairyman at a diſtance, talking about Cheeſe-making, he ſaid he never uſed a Cheeſe-preſs, and ſaid that his Cheeſe got hard as ſoon, and kept as well as thoſe that uſed a Preſs, the method he uſed is, to make the Cheeſe in a hoop (being chiefly thickiſh ſkim Cheeſe, tho' he ſaid he often made New-Milk Cheeſe in the ſame way) that was open at top and bottom, which being filled with Curd, and well ſqueezed into it, was then ſet upon

a board that had holes bored in it, the hoop alſo being bored and cover'd with a board which was bored alſo, putting a moderate weight upon the board to ſettle the Cheeſe; turning it upſide down, twice a day till it got ſtiff, and it anſwered very well. When Curd is firm, it will ſettle and get hard with very little cruſhing, it is the ſlip Curd that is in it, that makes it require ſo much preſſing to ſettle it, this method will be very uſeful in very ſmall Dairys that have no Preſs.

Clover, or other artificial Graſs, which generally contains more Air than common Graſs, requires full time in bringing the Cheeſe; in its firſt operation, it ſhould not be expoſed to too much heat, immediately after it is made, as the greater the quantity of Air that remains in the Cheeſe, the more effect heat will have upon it, by cauſing it to heave, or ſplit when the Air becomes rarified. Cheeſe made from Clover is rather more difficult to make, to even the beſt of Dairy-women, but I have ſeen very good ſound Dairys of ſtout, full flavour'd Cheeſe made from Clover, eſpecially when a good deal

deal of time is allowed to bring the Cheeſe, and care is taken not to let it lye too hot, after it begins to get dry. It is always hurtful to Cheeſe to lye too near tiles in hot weather. Dairys are ſubject to damage by noxious, or poiſonous plants, roots, or trees: Where Cows are fed in paſtures much addicted to wild-garlick, or cow-garlick, ramſons, or wild chives, I have often perceived the rank taſte of the Herb in the Cheeſe. Many people are at a fault to know the cauſe of bitter Cheeſe; which I have often obſerved is moſt prevalent from poor, or moderate light Land, and have frequently taken notice that where Cheeſe is bitter, their paſture is much addicted to black plantain, ribbed Graſs, or cock plant, may weed, dandilion, eſpecially the rough leaved ſort; centaury — arſmart or lake-weed, tanſey, wormwood, meadow ſweet, &c.—I take yarrow to be an ill favoured Plant for Cheeſe, where it prevails much in Land, being of a very faint nature, tho' Sheep are ſaid to be very fond of it, — Hem-lock — hen-bane — night-ſhade, cow-bane, cow-weed, water-wort, kex, drop-wort, yew-tree, box, and

moſt

moſt other ever-greens certainly are noxious and very hurtful. * I have often obſerved in riding thro' Dairy-farms, how little attention is paid to paſturage, Farmers frequently ſuffering many ſorts of known noxious Plants or Weeds to flouriſh in them, without any concern to extirpate or caſt them out, or of having the leaſt thought of encouraging, or propogating ſuch as are ſalutary or cheering to Cattle; I have often heard the remark made by Farmers that there is an inſtinct in Cattle that directs them to avoid noxious Plants, and even directs nature to apply many as remedies in various complaints; we often read of wild Beaſts, Serpents, &c. that are governed by ſuch inſtinct. — But it often happens that in very dry ſeaſons, paſtures are ſo very ſhort that Cattle are obliged to eat any thing that is green to keep them alive, and 'tis well known they often do clear up every thing before them, and many ſorts of Plants that they will not touch at other times; I have often obſerved that in ſuch ſeaſons, Cattle are very much ſubject

* A deſcription of noxious Plants, will be found at the end of the Book.

ſubject to violent diſorders; I have known many die, without the owners, or cow-leech being at all able to account for the cauſe; and frequently taken notice that Cattle dying ſo ſuddenly are much ſubject to ſwell greatly, and often in the ſame Dairy that many have died apparently from the ſame cauſe, and that ſuch complaints are moſt prevalent in the Months of *July* and *Auguſt*, when poiſonous Plants are in full vigour; I remember one Perſon who had loſt ſeveral Cows, who was a judicious perſon in Farming affairs, obſerve, that undigeſted Plants were found in their Stomachs, or Maws when opened, although they had not eat any vegetable food for two or three days, which made him ſuſpect they were poiſonous, and 'tis very natural to form ſuch an Idea.

There is no branch in Huſbandry ſeems of more importance, or gives a larger field for improvement than the conducting and managing of Dairy-Farms; as a great ſhare of the health, as well as the lives of the human ſpecies, are in a conſiderable degree dependent, on the health and good con-

dition of Milch Cows. Milk being a vegetable juice, or that yields a nouriſhment partly vegetable and partly animalized, partaking more or leſs, of the good or bad qualities of Plants on which the Cow feeds — Milk, in its produce of Cream, Butter, Cheeſe and many of our luxuries, is a conſtituent part of our daily food, through every ſtage of Life, conſequently great care ought to be taken, with reſpect to the food of Animals, who furniſh us with ſo great, and neceſſary a part of our ſuſtenance; I have always thought ſome knowledge in the uſe of Plants, a very agreeable amuſement, and it would certainly have been much more my ſtudy, had I thought of ever having ſuch an opportunity of making it uſeful. Such as have fallen under my knowledge I have here endeavoured to deſcribe, in which I acknowledge to have received much help from a late ingenious publication of DR. WITHERING on *Botany*, ( being the firſt I ever met with in Engliſh after the Linnæan Syſtem, ) which I think a work of great merit. As the Dairy-man, or Farmer, becomes more informed of the nature of noxious Plants, he will

will ſurely think it worth his while to try to get rid of them, by rooting them out; and as it is well known that Cows are very much ſubject to ſcowring, and flatulent or windy diſorders, it may be very well worth his while to ſow or plant in his paſtures and hedges, ſuch herbs in proper quantities as are found to be the beſt remedies for theſe and ſuch other complaints which Cattle are moſt incident to. Among many that might be mentioned the following herbs are very ſalutary, (and if there is ſuch an inſtinct in Cattle as ſome ſuppoſe, they will know how to cull the beſt,) lovage, agrimony, chervil, carraway, cummin, mint, bazil, hyſſop, rue, angelica, pepper-mint, penny-royal, thyme, marjoram, *&c.* I ſhould think a very proper time to ſow, or plant them, would be when you ſet, or plant hedges, or when plaſhed, or the banks freſh made up, or in paſtures where Ant-hills are dug up and carried away, to ſow them in the places they are dug from; It muſt certainly be an improvement of the firſt kind, to clear a Farm of all ſorts of noxious and poiſonous Plants and Weeds, and ſtocking them with ſuch as are health-

ful ſalutary and medicinal.—Treſoil & white Clover are eſteemed exceeding good Graſſes for producing Milk. But the higheſt encomium is given to Saintfoin Graſs, as being ſuperior to any other. — An *Eſſex* Farmer who is a correſpondent in the *Bath* Society for promoting Agriculture, thus deſcribes it; " As the roots ſtrike deep in our chalky " ſoil, this plant is not liable to be ſo much " injured by drought as other Graſſes whoſe " fibres ſhoot horizontally and lie near the " ſurface, the quantity of Hay produced is " greater, and better in quality than any " other, but there is one advantage attends " this Graſs, which renders it ſuperior to " any, and that ariſes from feeding it with " Milch Cows, the prodigious increaſe of " Milk which it makes is aſtoniſhing, being " near double that produced by any other " food. The Milk is alſo better and yields " more Cream than any other; I give you " this information from my own obſervation, " confirmed by long experience, and if Far- " mers would make trial they would find " their account in it far more than they " expect."

It

It is a pretty general opinion, that Saintfoin thrives only on up-lands, that lie near a rock, lime-ſtone, chalk or ſtrong gravel; the reaſon given is, the roots ſtrike ſo deep in the Earth, that unleſs it meets a check it ſeldom flouriſhes. That ſuch Land, being rocky, or very ſhallow hungry ſoil that will ſcarce bear any other ſorts of Graſs does produce great crops of Saintfoin, I have many times obſerved in different Counties; but as I meet with various Authors who ſay, that notwithſtanding that advantage there is in it, preferable to any other Graſs, yet it always thrives beſt in a rich good ſoil, which makes me imagine it has ſeldom had a fair trial, and if the advantage as a Dairy Graſs is ſo great, it is highly worth the Dairyman's notice.

We find many Farmers very induſtrious to improve their breed of Cattle, and ſet much ſtore on blood and faſhion. The Dairy-man's chief concern ſhould be to have Cows with good Bags, or Udders; that yield a quantity of Milk; and it is well known, by perſons who keep but one or

two Cows, that there is a material difference in the richneſs of Milk in Cows, and that when they ſet up the Milk of different Cows, they find, one ſhall yield a much larger quantity of Cream than another; and many are known not only to yield more Milk, but even much better than the Cow which gives leſs; this is an uſeful remark to a Dairyman as the quantity of rich Milk is the ſupport of his undertaking, and muſt in the end pay more than the fine form of Cattle, which may be of more conſequence to the feeding Grazier; and great care ſhould be taken that the Cows are Milked clean, as many good Cows are ſpoiled by ſuffering Milk to remain in the Udder; which will cauſe the Cow daily to give leſs and leſs, till at length ſhe will become dry before the proper time, and will be very apt to give but little Milk the next ſeaſon. It is obſerved in Fairs, that the people from *Wiltſhire* and other Dairy Counties, who buy Cows, always make a large bag in a Milking Cow, their firſt object, and thoſe that buy Cattle for feeding pay very little regard to it, prefering a good carcaſe; as Dairy-men are generally

nerally the breeders of Calves, it ſhould be their firſt object, to breed from Cows, which produce the beſt and largeſt quantity of Milk, and ſupply their own Dairy with that breed. I have often heard Dairy-men remark, that Cows are apt to give more Milk on the land they are bred upon, than others who come from a diſtant ſoil. I would always recommend to every Dairy-man, wherever it is in his power, to convey running ſtreams into his Dairy-ground,— to encourage his Cows to frequent ſcowers in Brooks, or running Streams; Cows certainly like clear Water beſt, and it always produces moſt Milk; and keeping them cool, the Milk is much eaſier made into Cheeſe, or Butter. When Cheeſe goes from the Preſs, let it be kept in as warm a ſtate as you can, till it has had a ſweat, or is got pretty regularly dry, and ſtiffiſh: It is warmth that makes Cheeſe ripe, improves the colour, and cauſes Cheeſe to cut flakey, the ſureſt ſign of excellent quality; which is very clear to thoſe who know the great difference there is in Cheeſe that has gone by Sea in the Summer-time to *London*, or any diſtant Port on

our Coaſt, having been thoroughly heated on Ship board, by the heat of the Seaſon, and ſuch large quantities being in the ſame apartment. I dare ſay any Perſon who has eat Cheeſe in the fineſt Dairys in *Cheſhire*, and alſo in a Tavern in *London*, when the ſame ſort of Cheeſe has undergone the heat of a Ship, and afterwards been laid in a Wine-cellar to cool gradually, and make it Mellow, (which is allowed to be the beſt ſituation for finiſhing Cheeſe, it not being expoſed to harſh Winds, or chilling Air,) ſuch Perſon muſt allow the Warmth it has received, improves the flavor and richneſs of the Cheeſe to a ſuperlative degree. I would recommend, where it can be avoided, that hard Cheeſe is not kept in the ſame Room with the ſoft, as a dampneſs that ariſes from the new moiſt Cheeſe, is a detriment to the improving ſtate the hard Cheeſe is getting into, making it very apt to chill, and get thick-coated, and often ſpotted; in ſome meaſure there is an analogy with the fine flavoured Fruit, this being the Seaſon that Cheeſe may be ſuppoſed to come to its flavor, and the foul damp that falls from the exhala-

exhalation of the ſoft Cheeſe greatly retards it, and being deprived of a chearing Warmth, will never become excellent. Cheeſe never taſtes agreeably till it has had a ſweat, ſuch as is always kept in a cold ſtate eats chill, flat-taſted and inſipid; a ſouth aſpect, or a Room over a Kitchen-fire is much beſt, till Cheeſe is got tollerably hard and had a ſweat; a cool ſhady Room, or even a Plaſter-floor is beſt after it has had a ſweat, till ſuch Time as the Weather gets too cool. Cheeſe very ſeldom heaves or gets puffy after it has had a ſweat and got cool again; the fat that melts with heat, cloſes the pores of Cheeſe made open by harſh Air, and keeps it mellow afterwards. The ſweat of Cheeſe ſhould not be rubbed off, or ſcraped off, unleſs it has ſweat to a violent degree, as it keeps the Cheeſe mellow and always improves the flavour. To have every excellence it muſt have every advantage. — In *Wilts*, *Glouceſterſhire*, and ſome part of *Warwickſhire*, moſt people waſh their Cheeſe, putting it in a little warm Water or Whey to ſoften the ſwarthy-coat occaſioned by the

Cheeſe

Cheeſe-cloth, or not being rubbed when it begins to get coated; then they rub it off with a Bruſh, and afterward lay it to dry, or ſweat before it is laid in the cooler apartment; many prefer rubbing it with a hair-cloth, beginning with it when Cheeſe is fit to handle, and not waſh it. If Cheeſe is deſigned for going by Sea, or for ſpeedy conſumption, I think waſhing is preferable, care being taken not to ſend it off too ſoft, as that expoſes it to crack, then the Fly takes it, and Maggots breeding in it damages your Cheeſe. When Cheeſe is deſigned to be kept long in the Dairy, if kept well cleaned, I prefer the other method, as the coat preſerves it, keeps it mellow and improves the Flavor. Froſt is very detrimental to Cheeſe if permitted to get into it, eſpecially, ſoft young Cheeſe; care ſhould be taken to keep the Windows cloſe in hard froſty Weather; many will cover it with (and even lay it in) Peas-ſtraw in ſevere Seaſons. I have known all the good qualities of Cheeſe annihilated or taken away, by being Froſt-bitten when Young; it is apt to turn black as if made with ſooty Milk,

and

and not have the leaſt taſte of Salt, or any reliſh remain. It is a very common method to ſcald Cheeſe, either in the Curd, or in the Cheeſe; the former I quite diſapprove, the deſign being only to ſettle the Curd which has not had Time given it to ſink ſolid in the Tub, which if done, will want no ſcalding; boiling Water, or boiling Whey poured upon it will ſet the Curd in ſome degree, and fix it hard, but then it always leaves it Tough and Horny-coated, if it is ſcalded to any great degree; more time taken in bringing the Curd, and having the Milk of a proper warmth, will render this whole proceeding quite needleſs. People are only ſeeking a remedy for a fault which they had no ſort of occaſion to have been troubled with. Scalding Cheeſe after it has been in the Preſs is of ſome advantage to Cheeſe that is to go by Sea, that, only being to ſet the coat and toughen it, is not ſo much expoſed to bruiſing, and the heat of the Ship recovers it again to its proper ſtate by removing that toughneſs which ſcalding gave it; but Cheeſe for Country Trade, is hurt by ſcalding, making it Tough and Horny-

coated.

coated. If Cheeſe gets too hard that has been ſcalded, the beſt way to recover it, is to lay it in a heap, four, five, or ſix Cheeſes high, in a cool room, ſtirring and removing every Cheeſe once in two or three Days, till it is got mellow. In many Counties, as *Lincoln. Huntington, Bedford, &c.* People take very great pains to make bad Cheeſe, if a good Dairy-woman happens to come amongſt them that ſells Cheeſe for a much greater Price than they can, yet they will follow their own method; perhaps, ſome few of them at leaſt, when they come to ſee Dairying plainly delineated, may have ſome inclination to alter their Plan, unleſs they prefer bad Cheeſe to good.

Many may wiſh to know what is a proper Size for Cheeſe-Vats for Trade. For Cheeſe of the *Glouceſter* make, we reckon that Vats—15 Inches Wide by $2\frac{1}{4}$ Inches Deep to make Cheeſe, Eleven to the Hundred Weight.

$15\frac{1}{2}$ Inches by $2\frac{1}{2}$ to make Tens.
16 Inches by $2\frac{1}{2}$ to make Nines.
$16\frac{1}{2}$ Inches by $2\frac{1}{2}$ to make Eights.

16 ½ Inches by 2 ¾ to make Sevens, &c.

Since writing the account of the Maw-ſkin, I have heard of a Plant called the Runnet-Plant; it is the firſt Time I ever heard the Name of it or the leaſt hint concerning it. I am informed the *Jews* make all their Cheeſe with it; their Law not permitting them to mingle Meat with Milk, which term they apply to making Cheeſe with Maw-ſkin, I have frequently ſeen *Jew* Cheeſe, but never ſaw any that I thought good or tollerably ſo, makes me imagine it is the neceſſity of principle only, that promotes its Uſe, but as I am an entire Stranger to the proceſs, ſhall be greatly obliged to any one who will favour me with any particulars concerning it, with its qualities and manner of Uſe.*

I am favour'd with a Letter from a Friend whoſe veracity I can depend on, acquainting me of another ſpecies of Runnet-plant, imagining my former information was not right, and that the Dairy-plant was of a different kind

* The Plant is deſcribed amongſt others at the end of this Book.

kind to that I had deſcribed — ſending at the ſame time ſome plants, for my inſpection — called ſpear graſs, and alſo the method of uſing it, as practiſed by a very good Dairy-woman in the County of *Derby* for many Years, whoſe Dairy was in the higheſt credit in the neighbourhood, where ſhe lived, hoping the Public might receive benefit by the publication of it, the receipt is as follows. — Take Spear-graſs, and as much cold water as will cover the Graſs, boil it over a ſlow Fire for an hour, put to it ſalt in proportion, of half a peck to ſix gallons of Liquor, then cover it up till cold, then ſtrain it and add three Maw-ſkins to each gallon, let it ſtand nine or ten days, then bottle it, uſe a table ſpoonful for a Cheeſe of fifteen or ſixteen pounds; but more or leſs may be uſed at diſcretion. From this receipt a very uſeful remark may be made: I have frequently enquired of Dairy-women who made their Runnet for keeping, what quantity of Skin they us'd, and have generally underſtood it to be about two Skins to a gallon of Water, but I have always thought that muſt be too little, here we find three Skins is recom-

recommended, even added to the decoction of Spear-grafs, which muft certainly be a powerful help to the Runnet; 'tis obferv'd alfo in the receipt, that a table fpoon-full may be ufed for a Cheefe of fifteen or fixteen pounds, which I imagine muft be as much as twelve or fourteen Cows Milk; if even two or three fpoon-fulls will do for that quantity of Milk it muft be of a very powerful fermenting quality, and leads me to imagine that Runnet in general, is certainly made too weak; and that if by the above method, or by the addition of fpices as recommended by *Mr. Hazard*, a much ftronger Runnet is made; it muft greatly quicken the coagulation and be a means of bringing the Cheefe properly, in fhorter time than that in prefent ufe, and might probably be fufficient if the Milk ftand an hour, or at moft an hour and half, which would fully reconcile my plan of finking Cheefe to thofe who may think the only difficulty attending it, is requiring too much time.

Spear-grafs is a very common plant, grows chiefly on moift land, or by pit fides, often in

in lanes, it is an upright ſtem, inclin'd to a rediſh brown, mixt with green, the leaves are ſpear-ſhaped growing up the ſtalk, a bright yellow flower with five petals, of the crow foot form, bloſſoms in *May* and *June*; this is doubtleſs a good plant for improving the Runnet, it being of a hot nature, and having been uſed ſo many Years with good ſucceſs is a great recommendation — but this cannot be the plant before deſcribed to me, and which I have found in different Authors, called yellow ladies bed-ſtraw, gooſe-graſs or Cheeſe Renning, nor does the Runnet made with it anſwer to the ends propoſed in making *Jew* Cheeſe.

I ſhould imagine the beſt time to collect the Spear-graſs for making Runnet, muſt be when it is in full Flower, which may be very apt to help the colour as well as give firmneſs to the Cheeſe. I have not a doubt but Runnet made with this plant, in the manner above deſcribed, will be a conſiderable improvement in Cheeſe-making, and ſhould be glad to hear of its having a fair trial, it appears to me to be the moſt likely thing to correct the miſchief cauſed by Slip-curd.

Having

Having now gone through the deſign of the work, and laid down ſuch obſervations on the principal concerns of Dairying, ſo far as relates to Cheeſe-making, as occur to my remembrance, I take my leave of it, hoping in general it will be found uſeful and expedient, and before I conclude, earneſtly recommend it to ſuch Dairy-women who find any difficulty in their proceedings in the buſineſs of Cheeſe-making, or wiſh to improve their make of Cheeſe, that they will, well weigh every part of the ſubject, and make trial of the whole proceſs, as ſtated in its different parts. As I am well convinced, by repeated trials that if the plan I have laid down is obſerved with care, it will not fail to make good Cheeſe. And though it may be objected by many, the length of time of the Milk ſtanding for Curd, yet ſo complete will the ſtate of the Curd be, that you will often times more than ſave that time in cruſhing, as it will be finiſhed in half the time, that bad Curd will take, and by the extra weight of Cheeſe, that time will give, will at length repay all your trouble; I well know, many Dairy-women

are partial to ſome particular method, or noſtrum of their own, or their mothers, or neighbour ſuch a one who was a famous Dairy-woman, as being preferable to all others, in which they often fail of ſucceſs, in ſome reſpect by having omitted to obſerve the exact minutia of their practice. As a very ſmall omiſſion, in time, or method, ſometimes leads them into a labyrinth, which they very rarely ever get out of, and cauſes them more vexation and perplexity, than if they had never known any thing about it. Or, if their's be a good method and very practicable, perhaps it is poſſible there may be a better, or eaſier means of proceeding, that will render their Plan quite needleſs.

I hope that thoſe who wiſh to improve from my inſtructions, will give it a fair Trial, if any at all; they need not ſay they are left in the Dark in any part of it, as every particular is made plain and moſt of them repeated, as precept upon precept, and line upon line. Let them be particular however in the main concerns, ſuch as the proper warmth of the Milk, the goodneſs,

and

and uſe of the Maw-ſkin, to give it Time enough in the Tub, or Cheeſe-pan, to keep the Cheeſe warm when young, and cool afterwards; then I think they will ſcarce fail of making good Cheeſe. If they mean to excel, and make fine Cheeſe — and why not? — Then I refer them to the more minute Obſervations of the Work, and I wiſh and hope, that they will find their Pains well beſtowed, and afford them both Comfort and Profit. I doubt not but methods uſed in different Counties vary a good deal. Some perhaps may be pointed out that are preferable to ſome of mine, and if any Perſon will be kind enough to point them out to me, or ſhew me where any thing has been omitted, or Error committed, if another Edition ſhould be called for, I ſhall very willingly communicate them to the Public.

# ON BUTTER.

BUTTER is an Article in very general uſe, and numerous are the people employed in making it; and is in great eſteem; from obſervations I have made, it admits of very little variation in the method of preparing, which methods are ſo generally known, require very little commentary upon them; I profeſs not to underſtand them, and therefore ſhall ſay very little about it. What little I have remarked in converſing with Dairy-women, is, that care ſhould be taken to ſet up your Milk when it is of a proper warmth — Milk-warm is the beſt, regulated the ſame as for rendling Cheeſe, applying a little cold Water if too hot, and either warm Water or Milk if too cold; many think Water beſt, ſaying, it will throw up Cream ſooner; to take care the Utenſils it is ſet up in, are exceeding

ing clean — the utility of which I think is clearly made appear by obſerving the effect of a contrary remark in making Whey Butter. — Indolence, finds out many ways which Induſtry never thought of. — Some Butter-Women, whoſe care is, more, to make a large quantity, than regard the quality, or flavour of Butter, will tell you, that four Whey, yields more Cream than ſweet, and it immediately turns ſour, by putting it into the Pans you poured the laſt meal's Whey from, without waſhing them. But in making good Butter, great care muſt be taken to prevent the Cream's being ſour, or your Butter will be ill flavoured, and will keep good but a very little time— That lead Pans are preferred to every thing, in throwing up, or riſing the Cream from Milk. Not to let the Milk ſtand too long before it is ſkimmed, eſpecially in hot weather.— If it muſt ſtand two meals, it had better be ſkimmed twice, than to let it ſtand the whole time for one ſkimming, as the Milk often turns ſour before the expiration of two meals; and if the laſt meal ſhould change, you may then be enabled to keep all the ſweet Cream by it-

ſelf.—The leſs time the Cream ſtands before it is churned, the finer flavoured and ſweeter your Butter will be.

Nothing is more commendable in a Dairy-maid than cleanlineſs, nor will any thing cauſe them to be more eſteemed; every one who perceives extream neatneſs in a Dairy, cannot help wiſhing to purchaſe either Butter or Cheeſe from ſo clean and neat a place, and would gladly give a higher price, rather than be expoſed to the chance of ſluttiſh naſtineſs, too common in many Dairys. It is remarked by many Travellers, that in the *Iſle* of *Wight*, nothing is more pleaſing than to ſee the exceeding neatneſs of their Dairys; it very rarely goes unnoticed, and to a delicate taſte, ſcarce any thing affords greater pleaſure.

As Butter is become a very conſiderable Article of Trade, it is highly proper every means ſhould be rendered to make it as complete and perfect as poſſible; it is very different in regard to purchaſers of large quantities of Butter, who muſt take lots as they happen,

happen, and in which very often a conſiderable part of them are very inferior to what they ought to be, and to buyers of freſh Butter in Markets; who can ſee and taſte it before they buy, which is a caution to the makers to have it well made, knowing it will be inſpected before ſold, thoſe who put it into Caſks or Firkins, for diſtant ſale, are apt not to be ſo very careful about it. I have heard frequent enquiry by Cheeſemongers, or dealers in Butter, what is the cauſe of Salt Butter being ſo ſubject to get rank, ſtrong taſted, or rancid, or what ſome people call a fiſhy taſte, which is a very great detriment to dealers in Butter, and the cauſe of the complaint much wants to be known; being well acquainted that the complaint is very frequent, has often led me to enquire into the cauſe when an opportunity has offered, being lately converſing with a perſon on the ſubject, he ſaid it was very common in *Suffolk & Yorkſhire*, to heat the Milk before it was ſet up for Cream, which is done in order to increaſe the quantity of Cream. It is well known that every fat ſubſtance that is heated, will in

courſe of time turn rancid, or reezy, that when Butter, of the laſt year, or a year old, is in the Caſk through the Summer, the heat will affect it, and ſo far as the heat gets into it, will reeze or become of a tallowy nature, fat Bacon will reeze ſo far as the fat melts; and the heating of Milk muſt certainly alter the nature of it, and in courſe of time will cauſe the Butter to turn rancid, and ill taſted. I have heard it obſerved by a perſon who is uſed to buy freſh Butter that was made of heated, or clouted Cream, ( which is a method much uſed in ſome parts of the South of England ) that it is very apt to get ſtrong and will keep good but a very little time. So that from all remarks I have been capable of making, it ſeems clear to me that the badneſs or foulneſs of Butter, is chiefly owing to the Milk being heated, and is a hint worth the enquiry of the public, eſpecially large dealers in Butter, in order that ſome method may be taken to prevent an evil that is become ſo very prevalent.

A friend who has been much uſed to Dairying, lately communicated to me a method to give

give Winter made Butter, which is often made from Fodder, either Hay or Straw, the countenance and reliſh of Summer Butter, made in the prime of the Seaſon; which is done by taking the juice of carrots, being bruiſed, or pounded to a pulp & then preſs'd or ſqueezed out, putting it into the Cream before Churn'd. And alſo, a method to take off the diſagreeable taſte of Butter made from Turnips, *viz.* let your Cream be warmed and poured into a Tub or Pail of cold Water, then ſkim the Cream off the Water, which will riſe to the top, the ſame as in Milk, and by this means leave the ſoul taſte behind it in the Water, this laſt method will much improve Whey Butter, taking off the diſagreeable fourneſs that often attends it, and by adding the juice of carrots as above, will help its colour and give it an agreeable reliſh, and by this means you may ſalt Whey Butter, down in pots, that will do very well for paſte in Winter. In a very ſenſible, and practical Eſſay printed in the third Volume of the *Bath* Society's Letters and Papers on Agriculture, &c. by *Mr. Hazard*, ſome uſeful remarks are made on Dairying, and alſo

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on the Dairy-houſe, which he ſays, ſhould always be kept in the neateſt order, and ſo ſituated, that the Windows or Lattices never front the South, South-eaſt or South-weſt; Lattices are alſo prefer'd to Windows, as they admit a more free circulation of Air, than glazed lights poſſible can do, and to prevent the cold Air in Winter, a ſliding frame coverd with oil'd cap paper, paſted on packthread ſtrained thereon, will admit the light and keep out the Sun and Wind. It is hardly poſſible in the Summer to keep a Dairy-houſe too cool, on which account none ſhould be ſituated far from a good ſpring or current of Water: They ſhould be neatly paved with red brick or ſmooth hard ſtone, and laid with a proper deſcent, ſo that no Water may lodge, this pavement ſhould be well waſh'd in ſummer every day; and all the Utenſils belonging to the Dairy ſhould be kept perfectly clean, nor ſhould the Churns even be ſuffer'd to be ſcalded in the Dairy as the ſteam that ariſes from hot Water will injure the Milk, nor do I approve of Cheeſe being kept therein, or Rennet for making Cheeſe, or having a Cheeſe Preſs fixed in a Dairy,

Dairy, as the Whey and Curd will diffuſe their acidity through-out the Room. He is of opinion the proper receptacle for Milk are Earthen-pans or Wooden-vats, but not lined with lead, as that mineral certainly contains a poiſonous quality and may in ſome degree affect the Milk, but if people ſtill perſiſt in uſing them, he adviſes that they never forget to ſcald them, ſcrub them well with ſalt and Water and to dry them thoroughly before they depoſit the Milk therein, indeed all Utenſils ſhould be cleaned in like manner before they are uſed, and if after this, they in the leaſt degree ſmell ſour, they muſt undergo a ſecond ſcrubbing before they are fit for uſe, he alſo recommends Pans with a large ſurface, or wide at top; during the Summer Months he recommends ſkimming the Milk very early in the Morning before the Dairy becomes warm, and not in the Evening till after Sun ſet; churning he recommends to be done in a Morning before the Sun appears, taking care to fix the churn where there is a free draft of Air, if a pump churn be uſed it may be plunged a foot deep into a tub of cold water to remain there the whole

whole time of churning, which will very much harden the Butter; a ſtrong rancid flavour will be given to Butter, if the churn be ſo near the fire as to heat the wood, in the Winter ſeaſon.

After Butter is churned, it ſhould be waſhed in many different waters till it is perfectly cleanſed from the Butter-milk, but he obſerves a warm hand will ſoften it and make it appear greaſey: The Cheeſe-mongers uſe two pieces of Wood ( or Spaddles ) for their Butter. and if thoſe who have a very hot hand were to have ſuch, they might work the Butter, ſo as to make it more ſaleable.

Butter will require, and endure, more working in Winter than in Summer, but he remarks he never knew any perſon, whoſe hand was warm by nature make good Butter.

Thoſe who uſe a pump churn muſt endeavour to keep a regular ſtroke, nor ſhould they admit any perſon to aſſiſt them, except they keep nearly the ſame ſtroke, for if they churn more ſlowly, the Butter will in Winter, go back

back, as it is called, and if the ſtroke be more quick and violent, in the Summer it will cauſe a fermentation, by which means the Butter will imbibe a very diſagreeable flavor. Where many Cows are kept, a barrel churn is preferable, but it requires to be kept very clean or the bad effects will be diſcover'd in the Butter, to be fixt in a warm place in Winter, and where there is a free Air in the Summer.

As many of my acquaintance wiſhed to have an enlarged account, of the Art of making Butter: I was very glad to have the opportunity, of collecting theſe annex'd, which are moſt of them worthy obſervation, and as I have before mention'd the method ſome people uſe in making Butter from what is generally call'd clouted cream; I ſhall now give you the proceſs as laid down by *Mr. Hazard.*

" In the firſt place, they depoſit their Milk in Earthen-pans in their Dairy-houſe, and ( after they have ſtood twelve Hours in the Summer, and double that ſpace in the Winter

ter) they remove them to ſtoves made for that purpoſe, which ſtoves are filled with hot embers; on theſe they remain till bubbles riſe, and the Cream changes its colour, it is then deem'd heated enough, and this they call ſcalded Cream, it is afterward removed ſteadily to the Dairy, where it remains twelve Hours more, and is then ſkimmed from the Milk and put into a Tub or Churn, if it be put into a Tub, it is beat well with the hand, and thus they obtain Butter, but a cleanlier way is to make uſe of a Churn; ſome ſcald it over the fire, but then the ſmoke is apt to affect it, and in either caſe if the pans touch the fire, they will crack or fly, and the Milk and Cream be waſted."

Dairy-women are oft times much perplex'd when churning, by having the Butter very long in coming, the cauſe of which I have never heard properly explain'd, ſome think the Cream was too cold, ſometimes it is thought too hot, many obſerve that an irregular motion in churning prevents its coming properly, as before remark'd by *Mr. Hazard*, but there ſeems to be a more powerful chemi-

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cal cauſe; from obſerving common cauſes, I ſhould imagine there is an alclaine ſalt in old Milk, which ſometimes overcomes the oily part of the Cream when agitated by the motion of churning, ſo as to prevent the Butter, ſeparating in the churn, the cure for which ſeems to be, to reduce the alcali to a neuteral ſtate, which effect, Acids are known to have, or at leaſt alcalics on Acids, as is common; when Beer gets ſour or much Acid, to recover it by putting a little ſalt of Tartar, ſalt of Worm-wood or any other powerful alcali into it, immediately recovers it to its uſual ſtate, and neither the acid nor alcali are perceived in the Beer, being made neuteral by their union.

I am much pleas'd to find my opinion ſeconded, and put in practice by an anonimous Author in the *Bath* Papers, who was very earneſt to find out a remedy that would haſten the operation in churning, and from a very pertinent idea that led him to weigh the matter, ſeems to have found out the real cauſe of the obſtruction, met with in the work, and alſo a remedy, which many Dairy-

women

women will be very happy to be inform'd of, as the Author juſtly obſerves, it will ſhorten the Labour of many a weary Arm, and prevent much vexation to a multitude of good Houſe-wives.

He obſerves, that when the operation of churning had been going forward for half a Day, he cauſed a little diſtilled Vinegar to be poured into the churn, and the Butter was produced within an Hour afterwards.

He alſo remarks upon the ſubject, that if the ſuppoſition be admitted, that the Cream of old Milk ( and ſuch is Milk for the moſt part in Winter, ) contains much ſtronger alcaline ſalt, or at leaſt more of it than new Milk does, then the effect of the Vinegar is readily accounted for on the known principles of Chymiſtry, it is an acknowledged property of alcalies to unite with oil into a ſaponaceous ( or ſoapy ) maſs, and to render them intimately miſcible with water. But it is likewiſe well known to chemiſts that there is a nearer affinity ( as they Term it ) a much ſtronger elective attraction between acids and

and alcalies than between alcalies and oils; conſequently the acids being mixed with the Cream, immediately attaches to itſelf the alcaline ſalt, which is the bond of union, as we may call it, that holds together the oleaginous (oily) and aqueous (watery) particles, and leaves them eaſily ſeparable from each other. It may perhaps be objected to this mode of practice that the acid mixing with the Cream, would render the Butter unpalatable; but this on experience I do not find to-be the caſe, and indeed I ſhould not my ſelf have expected it, as the Butter is uſually well waſhed in two or three changes of clean Water, by which the whole of the acid is carried off, or if ſome few particles remain, they are ſo few as not to be perceiv'd by the taſte & perhaps have rather a deſirable effect than otherwiſe, by acting as an antiſeptic, (preventing putrefaction) and preventing the Butter from becoming rancid ſo ſoon as it otherwiſe would do; he adds, my experiments have not as yet aſcertained the exact quantity of the acid which is neceſſary to produce the proper effect, nor the preciſe time of its being mix'd with the Cream. But I

apprehend a table ſpoonful or two to a gallon of Cream will be ſufficient; nor would I recommend it to be applied, till the Cream has under-gone ſome conſiderable agitation.

After having ſo much intereſted myſelf in endeavouring the improvement of Dairying, I am unwilling to take my final leave of it, without adding my ſincere wiſh, that the increaſe of Dairy-Farms, may meet with every encouragement from the Public, as it appears to me, a matter of the firſt conſequence to this Nation. The price of Butter & Cheeſe having ſo much increaſed within a few years, makes it quite neceſſary to give every encouragement to the increaſe of Dairying, as it plainly appears, there is not near a ſufficiency of thoſe Articles for general uſe, and every endeavour to increaſe the quantity muſt be for the Public good, if we only conſider how large a quantity of Butter is imported into England every Year, and yet the price ſtill continues to advance; it is aſtoniſhing to think that there is annually great quantities of Grain of different kinds imported into the Kingdom, while ſuch a prodigious

prodigious quantity of Land lies waſte in commons or that are of very little benefit to the community in general; alſo, how many thouſand People (both young and old) are now unemploy'd, who might find ſufficient ſupport, if encouragement was given for improving of Land for different purpoſes, and growth of numerous materials which now takes our Money abroad, ſuch as Rhubarb, Liquoriſh, Madder, Woad, Teaſels, Flax, Hemp, &c. As a plan for improvement in Huſbandry, ſeems much to prevail at preſent in this Kingdom, as if in emulation, to keep pace with the Arts, and ingenuity diſcoverable in many of our capital Manufactures in the preſent Age, ſo ſuperior to thoſe of former times and which are ſtill improving in a very great degree, ſo from the various Societies connected in different parts of this Kingdom, for the benefit and improvement of Agriculture, great knowledge is acquired and made Public for the general advantage of community, and if the ſame ſpirit would animate Gentlemen in common, who doubtleſs are the people that will receive the greateſt advantage from

the incloſure of commons, it would be a noble example, and diſcover a true patriotic ſpirit, if they would undertake the improvement of the Lands, which may be inclos'd, and who have it more in their power, eſpecially where ſmall Farms are neceſſary, (than the peaſant to whom they may be let, and who, when they are made uſeful can perhaps beſt employ them for the Public good,) they would then be well repaid for their trouble, be ſetting a noble example to poſterity, making a fortune for their Family, at the ſame time they are enabling numbers to gain a livelihood by their means, and what is there in Life that would more endear them to their Country, than ſuch a benevolent diſpoſition. I have not a doubt but the proportion of large Farms throughout this Kingdom is too great for the ſmall ones, and if the incloſure of commons ſhould take place, there would be a proper opportunity to equalize them, by making a larger number of ſmall Farms of different degrees, from 20 Acres to 50, from 50 to 100 and from 100 to 150, for tho' it is from large Farms, that our principal ſupply of proviſions muſt ariſe, yet

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it certainly is from the ſmall Farms that our Markets are chiefly ſupply'd with the common neceſſaries, ſuch as Butter, Eggs, Fowls, Pigs, Pigeons, Fruit and many other common neceſſaries of human Life, and the more ſmall and moderate ſiz'd Farms there are, the better will all Markets be ſupplied. I have not a doubt but if Gentlemen would undertake the management of new enclo-ſures, great improvement might be made from the Horſe-hove, and drill Huſbandry ſo much commended by many of the *Bath* So-ciety correſpondents, as well as thoſe of *Arthur Young, Eſq;* and from the advantage propoſed thereby of improving Land by thoſe methods, with very little manure, if Gentlemen would thoroughly adopt that method upon a large ſcale of practice, doubt-leſs it would become univerſal, and from the great quantity of Seed propoſed to be ſaved by this method, and a larger crop pro-duced, muſt in the end be a very great ad-vantage to this Nation; many may object, that the incloſed commons, will very little of it become Dairy-Land for a conſiderable time; yet it will certainly come in, in time,

and the more Arable Land is brought into uſe, certainly the greater proportion of Graſs Land may be ſpared for the Dairy. One great impediment to incloſures is the great expence of Acts of Parliament, this might be remedied in a great meaſure, if Government would grant one general Act for incloſing commons throughout the Kingdom, under the direction of County Committees, which might be appointed for that purpoſe at a moderate expence, and fully anſwer the deſign. but as a hint at the improvement, is the only thing I can advance toward it, yet, like the Widows mite, I would not with hold it, as it may encourage more capable Perſons to take it in hand.

# *SOME ACCOUNT,*

OF

## NOXIOUS, BITTER, and POISONOUS,

# PLANTS.

RIBWORT, ribbed graſs, black plantain or cock plant; this plant may not properly be ranged among bitter plants, it not being bitter to any great degree, but I have often thought upon examination, that the bitterneſs in ſome Cheeſe more reſembles the taſte of this plant and dandelion than any other whatſoever, and in barren ſoils they are apt to prevail more than any other.

Arſmart, or lakeweed, is a bitter plant, well known; 'tis ſaid to produce an eſſential oil, or oil extracted by diſtillation, which I ſhould imagine more likely to affect the bitterneſs of Milk than colder plants, it is apt to grow very ſtrong after being

mowed, and I have not obſerved that Cows refuſe or leave it untouched more than other plants in common. I think this plant much more likely to cauſe the bitterneſs of Butter in *Autumn* than the falling leaves to which it is generally referred, though many people are of opinion that Cows eating aſh leaves in *Autumn*, cauſes the bitterneſs in Butter.

Meadow-ſweet — is a bitteriſh plant that Cows are fond of, eſpecially the ſort that grows on up-lands, commonly called drop-wort, the meadow-ſweet of low-meadows is a ſort they do not readily feed on where there is plenty of Graſs.

Centaury, leſſer centaury or gentian, is an extream bitter plant, bears a pale red bloſſom with many florets, or pips, on an upright ſtem in old Paſtures, blows from *June* to *Auguſt*, I ſhould imagine it muſt be hurtful in Dairy-ground being a very penetrating bitter.

Hemlock, with ſtems and branches, ſpot-

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ted with brown, or black, and white flower; the whole plant is poiſonous, it grows in hedges, orchards, or among rubbiſh, and is very common.

Henbane, with bloſſoms purple & brown—indented leaves, embracing or cleaving to the ſtem, grows on road ſides or among rubbiſh, the ſeeds, roots, and leaves taken internally are all poiſonous.

Nightſhade, grows in moiſt brakes and hedges, with bluiſh bloſſoms, ſomtimes inclined to fleſh colour, ſometimes white.

Deadly nightſhade—dwale -- or belladonna is the worſt ſpecie, growing in woods, hedges, among lime-ſtone or rubbiſh; the ſtem is herbaceous or of a herby nature, the leaves, ſpear, or halbert ſhaped, the flowers of a bluiſh purple with a bright yellow thrum, chives, or pointal, appearing like the ſnuff of an expiring Candle, the berries grow in very handſome bunches, firſt green, then a fine red, next a beautiful black, are very tempting to Children having

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coſt many their Lives, cauſing ſtupor, delirium, and convulſions, and are certain Death if not prevented by timely and plentiful vomiting; this plant cannot be too well known being ſo very common in moſt Countries, and ſo tempting, both to Children and Cattle.

Cow-bane, water-viroſa, or water-hemlock — with rundles or flower branches oppoſite the leaves, leaf-ſtalks with blunt borders, with about ſeven pair of little leaves, which are variouſly divided and indented, petals, or leaf of the flower, yellowiſh pale green, grows in ſhallow waters, is a perennial plant, or that continues from year to year, blows in *July*; this is one of the rankeſt of our vegetable poiſons; numerous inſtances are recorded of its Fatality to the human ſpecies; an account of it may be ſeen and an engraving in Martin's Philoſophical Tranſactions, Vol. 10. Early in the ſpring when it grows in the water, Cows often eat it and are killed by it, but as the Summer advances and its ſmell becomes ſtronger, they carefully avoid it; though a certain

fatal

fatal poiſon to Cows, Goats devour it greedily and with impunity, Horſes and Sheep eat it with ſafety.

Cow-weed, or wild Cecily, grows in hedges, blows in *May*, or *June*, with white flowers, roots like a Parſnip, and is very poiſonous.

Water-wort, Water-hemlock, or Water-ſkeleton, is eſteem'd a fatal poiſon to Horſes, occaſioning them to become paralytick, which is owing to an inſect called *Curcutia Paraplecticus*, which generally inhabits within the ſtem; the uſual antidote is pig's dung, the branches of the leaves ſtradling — ſtem very thick, hollow, ſcored, petals or flowers white, grows in rivers, ditches and pools, bloſſoms in *June;* in the Winter the roots and ſtem diſſected by the influence of the weather, afford a curious ſkeleton, or network.

Kex, or water-parſnip, with white flowers in *July* or *Auguſt*, grows in rivers and fens, is very noxious to Cattle; alſo the leſ-

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ſer Kex called upright water-parſnip, in rivers and ditches, is very common; bloſſoms in *July* and *Auguſt*, leaves halbert ſhaped, rundles or flower-branch oppoſite the leaves.

Drop-wort, or dead tongue, grows on the banks of rivers, bears a white flower in *June*, the petals or leaves of the flower ſharp — bent inwards, tips purple or brown — the whole of this plant is poiſonous, the ſtem is a yellowiſh red, the leaves ſmooth, ſtreaked, jagged at the edges, the root is the rankeſt and moſt virulent of all vegetable poiſons.

Mithridate — or penny-creſs, grows in corn fields with oblong leaves, toothed, ſmooth, white bloſſoms; the whole plant has ſomething of a garlick flavour, the ſeeds have the acrimony or ſharpneſs of muſtard; Cows are rather fond of it, and I ſhould think their Milk is often affected by it.

Penny-wort, or white-rot, grows in marſhy ſpringy ground, with a pale red flower, blows in *May;* many Farmers ſuppoſe it occaſions the rot in Sheep, but I ſhould expect that complaint proceeds from a very different

different cauſe; though, if flowks that are ſuppoſed to be the certain cauſe of the Rot, or the ſpawn of them, are taken in with the food of Sheep, as ſome imagine, it is poſſible the Ova, or Eggs of this Inſect may be depoſited in this plant, which to know, may be worth the Farmer's enquiry.

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## *Some Account of the* RUNNET PLANT.

YELLOW Verum—Gooſe-graſs; the Leaves growing by eights, or eight leaves round the ſtem. ſtrap-ſhaped—furrowed—the flowering branches ſhort, bloſſoms yellow.

Engliſh Names, are yellow ladies bedſtraw or Cheeſe Renning, or petty muguet; it grows in dry ground, on road ſides, very common, is perennial, blows in *July* or *Auguſt*. The flowers will coagulate boiling Milk, and ſome *Cheſhire* Cheeſe is ſaid to be made with them; according to an experiment from *Borrchius* they yield an Acid by diſtillation. The *French* preſcribe them

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in hyſterick and epileptick caſes, boiled in Allum-water they tinge wooll yellow, the roots dye a very fine red, not inferior to Madder and are uſed for this purpoſe in the *Iſland* of *Jura*. See *Pennant's Tour*, 1772, Page 214. Sheep and Goats eat it, Horſes and Swine refuſe it, Cows are not fond of it. If the roots will anſwer the ſame purpoſe as Madder it highly merits the obſervation of *Calico Printers* and others, who uſe large quantities of that Article, as it is the moſt common weed, and what in the month of *July*, there is more of, than any other weed, and if the flowers will dye yellow, and make Cheeſe, it muſt be a very valuable Plant and be a great help to the Poor to collect it. as it grows on all road ſides, old paſtures and hedges in great abundance.

I have omitted giving the Latin names of Plants, not having ſufficient knowledge in that Language; but ſuch of my learned readers who wiſh for that addition, may refer either to *Dr. Withering's*, or other books on *Botany*, to *Chambers*, *Croker*, or other Dictionaries.

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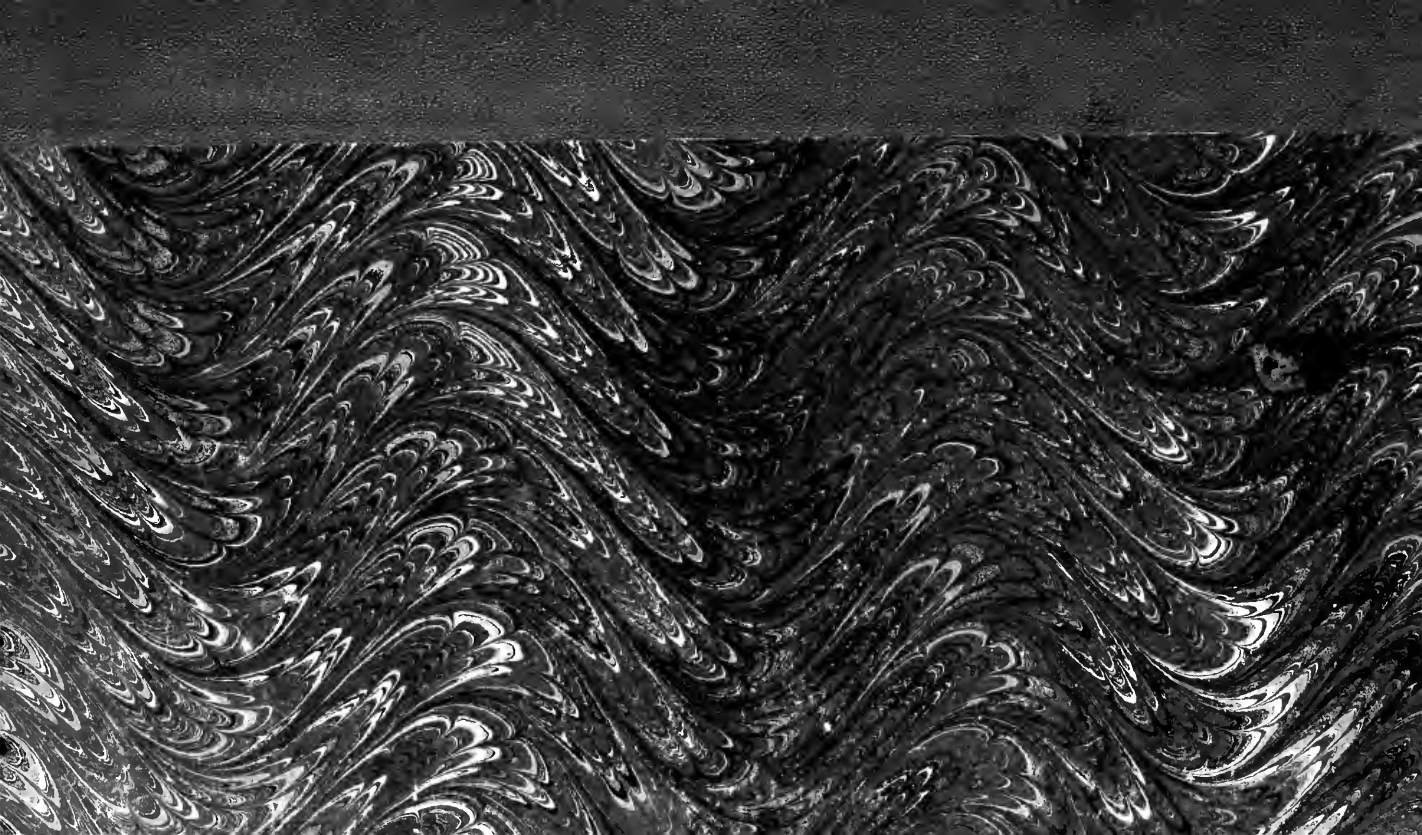
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